#### CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	HIBIT R-2, RDT&E Budget Item Justification										
								Feb	ruary 2006		
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NO	MENCLATURE	RE				
RESEARCH DEVELOPMENT TEST & EVALUATION	ON, NAVY /	BA-4			0603502N/Surface and Shallow Water Mine Countermeasure						
	Prior									Total	
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Program	
Total PE Cost	892.118	97.892	118.682	130.265	131.401	127.034	194.089	246.993	Continuing	Continuing	
Remote Minehunting System / 0260	327.153	17.278	0.000	5.816	0.000	0.000	27.028	33.418	Continuing	Continuing	
Mine Counter Measures Mid-Life Upgrades / 1233	73.506	3.359	15.617	20.160	31.179	19.204	3.832	3.884	Continuing	Continuing	
Unmanned Underwater Vehicle / 2094	300.966	58.745	53.805	42.224	56.773	60.020	108.618	160.047	Continuing	Continuing	
Assault Breaching System / 2131	190.493	15.721	28.777	37.083	36.116	35.367	30.562	29.513	Continuing	Continuing	
Low Frequency Broadband / 3102	0.000	0.000	9.702	0.000	0.000	0.000	0.000	0.000	0.000	9.702	
SMCM UUV / 3123	0.000	0.000	1.047	11.222	7.333	12.443	24.049	20.131	Continuing	Continuing	
Expendable Mine Neutralization System / 4025	0.000	1.825	8.334	13.760	0.000	0.000	0.000	0.000	0.000	23.919	
BPAUV / 9513 *	0.000	0.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.964	
9999 Congressional Add	0.000	0.000	1.400	0.000	0.000	0.000	0.000	0.000	0.000	1.400	
Quantity of RDT&E Articles			-							0.000	

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The program provides for developments to combat the threat of known and projected foreign mines against U.S. Naval and merchant shipping in harbors, channels, choke points, sea lines of communications and amphibious and other fleet operating areas. It develops: (1) organic remote minehunting capability for surface platforms; (2) the integration and improvement of systems and support for systems which will detect, localize, classify, and neutralize moored, bottom, and close-tethered mines for use in Mine Countermeasure (MCM) MCM-1 Class, Mine Hunter Coastal (MHC) MHC-51 Class, and other surface ships; (3) systems for neutralizing mines and light obstacles from shallow water, very shallow water, surf zones, and beach landing craft zones in support of amphibious operations; (4) Unmanned Undersea Vehicle (UUV) systems for clandestine mine reconnaissance.

- \* Congressional plus-up of the Surface Navy Inegrated Undersea Tactical Technology (SNIUTT) will be used to develop AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).
- \* Congressional plus-up of the Battlespace Preparation Autonomous Undersea Vehicle (BPAUV) is an unmanned system capable of minehunting and oceanographic data gathering. The BPAUV will be launched and recovered from Littoral Combat Ship (LCS) Flight 0. The Congressional plus up supports development of two engineering development systems.

#### (U) B. JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under DEMONSTRATION AND VALIDATION because it develops and integrates hardware for experimental testing related to specific ship or aircraft applications.

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	1E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shallo	ow Water MCN	Л		0260 Remote I	Minehunting Sy	/stems			
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 20010	FY 2011	Cost to Complete	Program
Project Cost	327.153		17.278	0.000	5.816	0.000	0.000	27.028	33.418	Continuing	Continuing
RDT&E Articles Qty	2		0	0							2

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AN/WLD-1(V)(1), Remote Minehunting System (RMS), consists of a diesel powered semi-submersible Remote Minehunting Vehicle (RMV) that tows a Variable Depth Sensor (VDS, AN/AQS-20A). It also includes shipboard equipment consisting of a command control combat system, launch and recovery system, radio antennas and support equipment. RMS will operate from the DDG-51 Class Flight IIA ships (DDG-91-96) and Littoral Combat Ships (LCS). The system determines the presence or absence of mines to an acceptable level of confidence to enable ships to operate in or avoid specific areas. Future funding will be used to begin development of emerging technologies for incorporation into the AN/WLD-1(V)(1) Remote Minehunting System and Littoral Combat Ship (LCS) Reconfigurable Mission Capabilities (Multi-Mission - MM).

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	0260 Remote Minehunting S	Systems	

#### (U) B. Accomplishments/Planned Program

Product Development	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	11.275	0.000	5.316
RDT&E Articles Quantity			

FY05 Accomplishments: Complete engineering and fabrication of Engineering Development Models (EDMs) for the RMS. Conduct Functional/Physical Configuration Audit and installation of Data Link Subsystem and Launch and Recovery Subsystem. Milestone C was approved on 1 July 2005 and program was authorized to procure up to three (3) LRIP units in FY05.

FY07: Correct reliability issues.

Support	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.619	0.000	0.000
RDT&E Articles Quantity			

FY05 Accomplishments: Complete software Design/Code/Test for the RMS. Continue Integrated Logistics Support (ILS) Planning and Integrated Electronic Technical Manual (IETM) Development for RMS. Continue Integration Support for the RMS.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justifica	ation			DATE:	ebruary 2006
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	BER AND NAME	PROJECT NUMBER AND		sbruary 2000
DT&E, N / BA-4	0603502N, Surface and Shalle	ow Water MCM	0260 Remote Minehunting	Systems	
B. Accomplishments/Planned Program				,	
T&E		FY 05	FY 06	FY 07	<del></del>
Accomplishments/Effort/Subtotal Cost		1.229	0.000	0.000	
RDT&E Articles Quantity		1.229	0.000	0.000	<del></del>
FY05 Accomplishments: Conducted Operation	onal Assessment, SQT-I, and SQT-II.				
Management Accomplishments/Effort/Subtotal Cost		FY 05	FY 06	FY 07	
Management Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		FY 05 1.155	FY 06 0.000	FY 07 0.500	
Accomplishments/Effort/Subtotal Cost	COMOPTEVFOR and Program Manag	1.155	0.000		

#### **CLASSIFICATION:**

EXHIBIT R-2, RDT&E Budget Item Justification				DATE:
				February 2006
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-4			0260 Remote Minehunting Systems
(U) C. PROGRAM CHANGE SUMMARY:				
(U) C. PROGRAM CHANGE SUMMARY:	FY 2005	FY 2006	FY 2007	
FY06 President's Budget	14.284	0.000	0.000	
FY07 President's Budget	17.278	0.000	5.816	
Total Adjustments	2.994	0.000	5.816	
Summary of Adjustments:				
Inflation	0.000	0.000	0.026	
Pay Rates	0.000	0.000	0.008	
Programmatic Changes	2.994	0.000	5.782	
Subtotal	2.994	0.000	5.816	_

#### (U) Schedule:

Conducted System Qualification Test (SQT) II in the 4th quarter FY05. Procurement in place for three (3) Low Rate Initial Production (LRIP) Remote Minehunting Vehicles (RMVs) units under N00024-05-C-6327 and one (1) Variable Depth Sensor (VDS) in FY05. Full rate production will start in FY06.

(U) Technical:

Not Applicable

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&	E Project Justification						DATE:				
							February 2006				
APPROPRIATION/BUDG	ET ACTIVITY	PROGRAM ELEMENT NUMB	PROGRAM ELEMENT NUMBER AND NAME PROJECT N						-		
RDT&E, N /	BA-4	0603502N, Surface and Shall	ow Water MCM		0260 Remote	Minehunting S	ystems				
(U) D. OTHER PR	OGRAM FUNDING SUMMARY:										
		<b>5</b> 1/0005	<b>5</b> ) / 2222						То	Total	
Line Item No. & I		<u>FY 2005</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	<u>Complete</u>	<u>Cost</u>	
P-1 #50 / OPN	l .										
RMS		33.851	53.708	16.773	1						
Support		1.710	1.581	1.221							
Total		35.561	55.289	17.994							
(U) RDT&E, Li	ine 0604373, 0529	2.400	3.369	10.965	i						
(U) E. ACQUISITION	N STRATEGY:										

The Navy has implemented an evolutionary strategy in developing AN/WLD-1(V)(1). The Navy developed the RMS(V)1/2, as a concept demonstration prototype. The follow-on effort for the RMS(V)3 focused on a prototype development, and was competitively awarded to Lockheed Martin in August 1996. The RMS(V)4, officially designated the AN/WLD-1(V)(1), is based upon RMS(V)3 design and was awarded as a sole source contract to Lockheed Martin in 2002. AN/WLD-1(V)(1) was approved for MS C on 1 July 2005. The program was authorized to procure up to three (3) LRIPs in FY05. A sole source letter contract N00024-05-C-6327 was awarded to Lockheed Martin on 30 September 2005 for FY05 LRIP, and FY06 and FY07 production. Full rate production decision is scheduled for 2nd quarter FY06. FY08 and out-year procurements will be procured under a competitive contract.

#### CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis (pag										F	ebruary 2	006		
APPROPRIATION/BUDGET ACTIVITY	TY	PROGRAM E	LEMENT			PROJECT N	UMBER ANI	D NAME						
RDT&E, N / BA-4			urface and Sha	allow Water M	CM	0260 Remote Minehunting Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05	FY 05 Award Date	FY 06	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete		Target Value of Contract
Hardware Development & Integration	CPIF	Lockheed Martin	97.283									0.000	97.283	
Hardware Development & Integration	CPIF	Lockheed Martin	81.636			9.336	11/04			5.316	11/06	Continuing	Continuing	
Hardware Development & Integration	WX	NSWC, Panama City, FL	6.171			0.969	10/04					Continuing	Continuing	
Systems Engineering	CPIF	Lockheed Martin	5.465									0.000	5.465	
Systems Engineering	CPIF	Lockheed Martin	6.001			0.485	11/04					Continuing	Continuing	
Systems Engineering	WX	NSWC, Panama City, FL	1.430			0.485	10/04					Continuing	Continuing	
Award Fees	CPIF	Lockheed Martin	5.485									0.000	5.485	
Subtotal Product Development			203.471			11.275		0.000		5.316		Continuing	Continuing	

#### Remarks

GFE - AN/AQS-20A systems provided to RMS program were developed under PE 0604373/0529. Production units will be procured under OPN 424800. Lockheed Martin, Syracuse, NY, contracts: (1) N00024-96-C-6322 was competitive CPAF/CPIF and (2) N00024-02-C-6309 was sole source CPIF.

#### CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis	(page 1)										Februa	ary 2006		
APPROPRIATION/BUDGET A		PROGRAM	ELEMENT			PROJECT N	UMBER AND	NAME						
RDT&E, N / BA-	-4		Surface and Sha	allow Water MCN	Л	0260 Remote Minehunting Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete		Target Value of Contract
Software Development	CPIF	Lockheed Martin	7.092									0.000	7.092	
Software Development	CPIF	Lockheed Martin	6.573			0.388	11/04					Continuing	Continuing	
Software Development	wx	NSWC, Panama City, FL	1.851			0.291	10/04					Continuing	Continuing	
ILS	CPIF	Lockheed Martin	5.682									0.000	5.682	
ILS	CPIF	Lockheed Martin	8.941			1.163	11/04					Continuing	Continuing	
ILS	wx	NSWC, Panama City, FL	1.783			0.291	10/04					Continuing	Continuing	
Ship Integration	CPIF	Lockheed Martin	1.258									0.000	1.258	
Ship Integration	CPIF	Lockheed Martin	2.490			0.388	11/04					0.000	2.878	
Ship Integration**	Various	Various	12.353			1.098	12/04					0.000	13.451	
Subtotal Support			48.023			3.619		0.00	0	0.00	О	Continuing	Continuing	

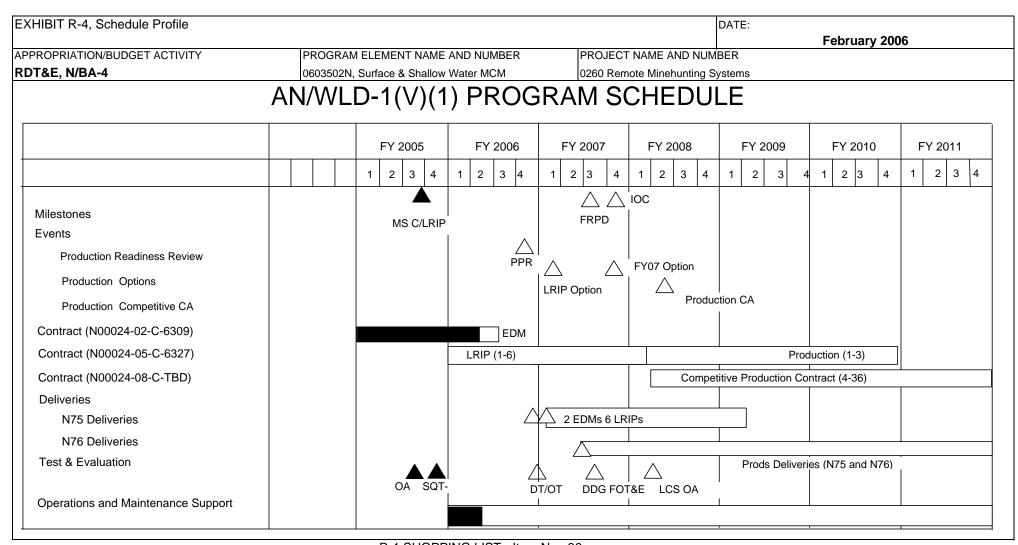
#### Remarks

Various in Ship Integration provides funding to support AN/SQQ-89(V)15 ECP effort for RMS and RMS DDG ship class integration efforts.

#### CLASSIFICATION:

							DATE:						
Exhibit R-3 Cost Analysis (pag	ge 2)									Febru	ary 2006		
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM E	LEMENT		PROJECT N	UMBER AND	NAME				-		
RDT&E, N / BA-4				allow Water MCM	0260 Remote		g Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	CPIF	Lockheed Martin	18.470								0.000	18.470	
Developmental Test & Evaluation	CPIF	Lockheed Martin	13.620		0.590	11/04					Continuing	Continuing	
Developmental Test & Evaluation	WX	NSWC, Panama City, FL	7.525		0.639						Continuing	Continuing	
,		, , , , , , , , , , , , , , , , , , , ,											
Subtotal T&E			39.615		1.229		0.000	)	0.000		Continuing	Continuing	1
	T	1			T	T	T	1	T	T	1		
Contractor Engineering Support	CPIF	Lockheed Martin	2.919		0.780	11/04			0.300	1	Continuing	Continuing	,
Government Engineering Support	WX	NSWC, Panama City, FL	22.393		1				0.100	1	Continuing	Continuing	,
Program Management Support	CPFF	CACI	4.020		0.288	11/04			0.050		Continuing	Continuing	<b>1</b>
Travel	Various	NAVSEA	0.351		0.087	Various			0.050	11/06	Continuing	Continuing	
SBIR Assessment	Various	Various	6.361										
	+										0 " '	0 11 1	
Subtotal Management			36.044		1.155		0.000	)	0.500		Continuing	Continuing	]
Remarks: Award dates for management are	various bed	cause multiple activities are re	eceiving tasks a	it different times during the	e fiscal year.								
Total Cost			327.153		17.278		0.000	)	5.816		Continuing	Continuing	
Remarks:													

#### **CLASSIFICATION:**



### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail			DATE: February 2006						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NUMBER AND NAME				
RDT&BA-4		urface & Shallov	w Water MCM		0260 Remote Minehunting Systems				
Schedule Profile: AN/WLD-1(V)(1)	,	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Milestones:		1 1 2000	1 1 2000	1 1 2007	1 1 2000	1 1 2000	1 1 2010	1 1 2011	
MC C/LRIP		3Q		1Q					
FRPD				3Q					
IOC				4Q					
Events:					+				
Production Readiness Review			4Q						
Production Options				1Q-3Q					
Production Competitive CA					2Q				
Contract (N00024-02-C-6309):									
EDM		1Q-4Q	1Q - 2Q						
Contract (N00024-05-C-6327):									
LRIP		4Q	1Q-4Q	1Q-4Q	1Q				
LRIP Options			4Q	1Q-4Q	1Q-4Q				
Production Option				3Q	1Q-4Q	1Q-4Q	1Q-4Q		
Contract (N00024-08-C-TBD):									
Compettitive Production Contract					2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Deliveries:									
N75 Deliveries			4Q	1Q-3Q					
N76 Deliveries				2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Test & Evaluation:									
OA		3Q							
SQT-II		4Q							
DT/OT				1Q					
Operations and Maintenance Support			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	

R-1 SHOPPING LIST - Item No. 36

**UNCLASSIFIED** 

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 11 of 98)

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAME		PROJECT NUI	MBER AND NA	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shall	ow Water MCM	1		1233 Mine Cou	unter Measures	Mid-Life Upgr	ades		
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Program
Project Cost	73.506		3.359	15.617	20.160	31.179	19.204	3.832	3.884	Continuing	Continuing
RDT&E Articles Qty											

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(1) High-Frequency, Wide Band (HFWB) is a technology upgrade to the SQQ-32 Towed Body which will incorporate HFWB technology into the detection sonar to address performance deficiencies against new mine threats in the littorals. This upgrade will be installed on MCM-1 Class ships with the SQQ-32(V)3 and will develop new transducer modules, fiber optic cable and modify topside processing and display software. 2) Mine Warfare and Environmental Decision Aids Library (MEDAL) is a software segment on the Global Command and Control System – Maritime (GCCS-M). MEDAL provides mine and mine warfare planning and evaluation tools and databases to the MCM Commander. (3) MCM Command Control, Communication, Computers and Intelligence (C4I) meet FORCEnet implementation standards; develop and maintain Mine Warfare (MIW) C4I Surveillance and Reconnaissance (C4ISR) architecture; identify and validate C4ISR shortfalls. 4) Develop and implement Course of Action Planner (COAP). 5) Battle Space Profiler (BSP) is used to optimize sonar setup (towed body depth and depression/elevation (D/E) angles), support mission planning based on predicted sonar performance, and adapt mission planning to changes in the environment and threats. Improvement to the BSP system will allow the BSP to become an in situation real time environmental data collection system and will allow sharing pertinent data such as MEDAL contact and environmental databases, as well as all Navigation information. 6) Unmanned Submersible Vehicle (USV) Sweep System is a magnetic/accoustic sweep system developed to sweep acoustic/magnetic influence mines from a small unmanned surface platform deployed from the Littoral Combat Ship (LCS).

### CLASSIFICATION:

•	tion		DATE:	006
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	February 2	006
DT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Measu		
71&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mille Couriter Measu	res Mid-Life Opgrades	
B. Accomplishments/Planned Program				
BSP / Product Development	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.000	1.129	0.341	
RDT&E Articles Quantity				
BSP / Support	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.000	0.110	0.050	
RDT&E Articles Quantity				
Develop logistics products, including training n	naterials and interactive technical manual.			
Develop logistics products, including training n	FY 05	FY 06	FY 07	
Develop logistics products, including training n  BSP / Management  Accomplishments/Effort/Subtotal Cost		FY 06 0.320	FY 07 0.106	
Develop logistics products, including training not be a second or	FY 05			
Develop logistics products, including training n  BSP / Management  Accomplishments/Effort/Subtotal Cost	FY 05 0.000			
Develop logistics products, including training not be a second or	FY 05 0.000			

R-1 SHOPPING LIST - Item No.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justificat	tion			DATE:
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N	February 200
DT&E, N / BA-4	0603502N, Surface and Sha		1233 Mine Counter Measure	
DIAL, N / BA-4	0003302N, Surface and Sha	ilow water wich	1233 Mille Couliter Measure	es Mid-Life Opgrades
B. Accomplishments/Planned Program				
C4I / Product Development		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.465	0.703	0.708
RDT&E Articles Quantity				
Exchange Requirements of the MIW communit Architecture. Rev 4 Architecture.	,		,,	
C4I / Support		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.350	0.300	0.400
RDT&E Articles Quantity				
Support: Identification of C4ISR shortfalls within the MIW and Architecture Working Groups. System Eng MIW Architecture is utilized to conduct assessminclude the continued MIW C4ISR assessment, and the integration of MIW tactical databases in C4I / Management Accomplishments/Effort/Subtotal Cost	gineering Support is also provided to nents in order to identify shortfalls an , MCM/MHC LAN improvement prog	the SMCM Class identify nd provide C4ISR solution	ring class issues and seeking erns to the MIW community. Spec	ngineering solutions. The lific ongoing initiatives
RDT&E Articles Quantity				
-			·	
Management:  Provide program management support and tra-	vel for MIW C4I program.			
C4I TOTAL		0.997	1.156	1.331
OTITOTAL		0.331	1.130	1.331

R-1 SHOPPING LIST - Item No.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	ation	DATE:
		February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Measures Mid-Life Upgrades
(II) R. Accomplishments/Planned Program		

#### (U) B. Accomplishments/Planned Program

COAP / Product Development	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.868	0.852
RDT&E Articles Quantity			

#### **Product Development:**

Begin the development and design of Build 0. Continue testing and delivery of Build 0. Begin development and design of Build 1. Continue the development and design of Build 1. Continue testing and delivery of Build 1. Begin development and design of Build 2.

COAP / Support	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.110	0.110
RDT&E Articles Quantity			

#### Support:

Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness in reducing the complexity of the MCM planning problem into a manageable set of options depending on the operational objective. Support effort to include communication with activities such as ONR and NSWC-PC to coordinate the incorporation of validated algorithms and models into MEDAL with the Commander's Estimate of the Situation framework in order to effectively simplify the MCM planning problem for CSG and ESG staffs and therefore provide the speed, agility, adaptability, and flexibility required for modern MCM operations.

COAP / Management	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.094	0.080
RDT&E Articles Quantity			

#### Management:

Provide program management support and travel for Course Of Action Planner program. Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required.

COAP TOTAL	0.000	1.072	1.042

R-1 SHOPPING LIST - Item No.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			F	ebruary 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Measure	es Mid-Life Upgrades	

#### (U) B. Accomplishments/Planned Program

GCCS-M4X / Product Development	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.468	0.000
RDT&E Articles Quantity			

#### **Product Development:**

Developed and integrated GCCS-M 4.x hardware for M-class ships and expeditionary units. This effort includes the identification, approval, design, planning, programming, budgeting and accomplishment of improvements that increase the ability of the MIW ships to perform assigned missions. This is the first step in a larger plan to upgrade the MCM and MHC Class ships to the full IT-21 suite by rapidly inserting the minimum components enabling the MCM fleet to maximize operational effectiveness and minimize associated risk for own force and supported joint forces.

GCCS TOTAL	0.000	0.468	0.000

R-1 SHOPPING LIST - Item No.

### CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justifica	tion		DATE:
ROPRIATION/BUDGET ACTIVITY	DDOCDAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	February 200
	PROGRAM ELEMENT NUMBER AND NAME		
Г&E, N / ВА-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Measure	s Mid-Life Upgrades
3. Accomplishments/Planned Program			
HFWB / Product Development	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	5.335	5.432
RDT&E Articles Quantity	0,000	0.000	0.102
perator console components. Continue designments	gn and fabrication efforts; Begin laboratory integration, testi	ng and in-water component tests.	
HFWB / Support	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.467	2.400
	Modify existing software and integration of new software; Integration and training updates. Continue software dev		
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):  FY 07
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E  Accomplishments/Effort/Subtotal Cost	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):
Develop beamforming and display software; Mocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E  Accomplishments/Effort/Subtotal Cost  RDT&E Articles Quantity	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):  FY 07
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E  Accomplishments/Effort/Subtotal Cost	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):  FY 07
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Conduct component and development Environments	nnical manual and training updates. Continue software dev	elopment and integration; Integrate	ed Logistic Support (ILS):  FY 07
Develop beamforming and display software; Mocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E  Accomplishments/Effort/Subtotal Cost  RDT&E Articles Quantity	Princial manual and training updates. Continue software device of the principle of the prin	FY 06 0.175	FY 07 0.725
Develop beamforming and display software; Mocuments (ICDs), installation packages, tecle Continue ILS efforts.  HFWB / T&E Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Conduct component and development Environments / Management	Princial manual and training updates. Continue software device of the principle of the prin	FY 06 0.175 FY 06	FY 07 0.725  FY 07
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Conduct component and development Environment Component Cost RDT&E Articles Quantity  HFWB / Management Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	Princial manual and training updates. Continue software device of the principle of the prin	FY 06 0.175 FY 06	FY 07 0.725  FY 07
Develop beamforming and display software; Mocuments (ICDs), installation packages, tecle Continue ILS efforts.  HFWB / T&E Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Conduct component and development Environments / Management Accomplishments/Effort/Subtotal Cost	Princial manual and training updates. Continue software device of the principle of the prin	FY 06 0.175 FY 06	FY 07 0.725  FY 07
Develop beamforming and display software; Nocuments (ICDs), installation packages, tecl Continue ILS efforts.  HFWB / T&E Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Conduct component and development Environment Component and Development Environments/Effort/Subtotal Cost RDT&E Articles Quantity  Management:  Management:	Princial manual and training updates. Continue software device of the principle of the prin	FY 06 0.175 FY 06	FY 07 0.725  FY 07

R-1 SHOPPING LIST - Item No.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Measure	s Mid-Life Upgrades

#### (U) B. Accomplishments/Planned Program

MEDAL / Support	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.987	2.112	5.043
RDT&E Articles Quantity			

#### Support:

For all MEDAL software development, new functions shall be incorporated through the execution of an evolutionary development process. These functions shall be in accordance with the prioritized fleet requirements and the MEDAL Program Plan. Test of Build 9; complete IOC Build 9, complete development and test of Build 10, Initiate development of Build 11. Test of Build 10, complete IOC Build 10, complete development and test of Build 11, Initiate development of Build 12. Test of Build 11, complete IOC Build 12, complete IOC Build 12, complete IOC Build 12, complete IOC Build 13, Initiate development of Build 14.

MEDAL / Management	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.375	0.461	0.914
RDT&E Articles Quantity			

#### Management:

Provide program management support and travel for MEDAL program. Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors as required to ensure successful execution of the program. As part of the systems engineering element of PM, communicate and coordinate with MIW C4ISR, ICWS, Organic MCM, Mainstreaming MIW, Expeditionary Warfare C4ISR, tactics development, long term planning, Naval Special Clearance Team (NSCT)-1, and other programs as they relate to MEDAL and MIW Mission Planning, Evaluation, and C4ISR. Other PM tasking to include briefings, demonstrations, and project planning as required.

MEDAL TOTAL	2.362	2.573	5.957

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 18 of 98)

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justifica	ation		DATE:
			February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	NAME
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	1233 Mine Counter Meas	ures Mid-Life Upgrades
U) B. Accomplishments/Planned Program			
USV / Product Development	EV 05	F1/ 00	5)/07
USV / Product Development Accomplishments/Effort/Subtotal Cost	FY 05 0.000	FY 06 0.000	FY 07 1.500
RDT&E Articles Quantity	0.000	0.000	1.500
Hardware and Software Development of mag	netic/acoustic sweep system for small unmanned surface p	latform .	
USV / Support	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
USV / T&E	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
Risk Reduction Testing/ CT/DT/OT Planning			
USV / Management	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.302
RDT&E Articles Quantity	0.000	0.000	0.502
,		<u>l</u>	
Program Management/Travel/TDA Costs.			
	0.000	0.000	1.802

#### **CLASSIFICATION:**

EXHIBIT R-2, RDT&E Budget Item Justification				DATE:
				February 2006
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-4			1233 Mine Counter Measures Mid-Life Upgrades
(U) C. PROGRAM CHANGE SUMMARY:				
(U) C. PROGRAM CHANGE SUMMARY:	FY 2005	FY 2006	FY 2007	
FY06 President's Budget	3.813	15.855	19.513	
FY07 President's Budget	3.359	15.617	20.160	
Total Adjustments	-0.454	-0.238	0.647	
Summary of Adjustments:				
Inflation	0.000	0.000	0.103	
Pay Rates	0.000	0.000	0.029	
Programmatic Changes	-0.454	-0.238	0.515	
Subtotal	-0.454	-0.238	0.647	_

#### (U) Schedule:

Funding provides increase infrastructure within MEDAL which supports increased functionality. Current MEDAL schedule will be followed.

#### (U) Technical:

MEDAL Data Fusion will provide additional capability within MEDAL to automate process of fusing contacts with consistent results and less time. Course of Action Planner (COAP) will provide a set of tools which utilizes the Commander's Estimate of the Situation (CES) framework. COAP works within MEDAL to support MIW decision making.

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Februa	ry 2006	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBE	R AND NAME		PROJECT NUME	BER AND NA	ME			
RDT&E, N / BA-4	0603502N, Surfa	ce and Shallov	w Water MCM		1233 Mine Coun	ter Measures	Mid-Life Upgra	ades		
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
								To	Total	
Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Complete	Cost	
2622 / OPN (LV075/LV078/LV080)	14.561	23.876	21.876							
SUPPORT	1.167	1.395	1.631							
TOTAL	15.728	25.271	23.507							

### (U) E. ACQUISITION STRATEGY:

HFWB - NSWC, Panama City will team with a university laboratory to design and develop the HFWB upgrade to the AN/SQQ-32. Contract award for Integration Contractor.

BSP - The system is being developed by NAVO, NRL and Naval Surface Warfare Center Panama City. The improvements being incorporated into the BSP system are modifications to existing Naval Oceanographic Office and NRL products

Mine Warfare and Environmental Decision Aids Library (MEDAL) - requirements for MEDAL Builds are generated through a formal requirements process. Requirements conferences gather a list of candidate functions based on a logical sequence to fully implement the overall software architecture. The fleet is presented with a recommended list of candidate capabilities based on this program plan, doctrine, fleet comments, and technology. These capability items are then prioritized by the fleet representatives (coordinated by Commander Mine Warfare Command). The fleet inputs are then consolidated by COMINEWARCOM into an overall list which is then presented to Navy leadership for pricing and final selection. The selection is based on price, risk, available funding, and possibly by other program factors (e.g., ensure that MEDAL supports other program delivery schedules). Selection balances immediate needs, long term objectives, technical maturity and other programmatic factors. A verification and validation process is applied to any algorithms, tactics, or models to be incorporated in the software. MEDAL development to include integration of data fusion techniques and incorporation of Data Access Layer (DAL) architecture to meet FORCEnet requirements. Acquisition strategy for Course of Action Planner (COAP) is to deliver the software module within MEDAL builds by implementing the Commander's Estimate of the Situation framework into the MEDAL software.

USV- The Unmanned Surface Vehicle sweep system effort will be transferred from ONR to PMS495 in FY07. PMS495 will award an SD+D contract to continue development of the system. It will be capable of sweeping mines in the littoral waters. The SD+D phase will be followed by milestone C LRIP decision and then LRIP and full rate production.

#### CLASSIFICATION:

						DATE:							
Exhibit R-3 Cost Analysis (p	age 1)								Februar	y 2006			
APPROPRIATION/BUDGET ACT	TVITY	PROGR	RAM ELEMENT	PROJECT NU	JMBER AND								
RDT&E, N / BA-4		060350	2N, Surface and Shallow Water M			asures Mid-Life Upgrades							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
(BSP) Develop Bottom Sediment		NRL	0.000	COSI	Date	0.380		0.024	1	Continuing	Continuing		
(BSP) Develop Current Profiler	CPIF	NAVO	0.000			0.300		0.024		Continuing	Continuing		
(BSP) Develop Hydro-Optics Pac		NAVO	0.000			0.200		0.091	10/00	0.000		1	
Systems Engineering	Various	NSWC, PC/NAVAIR	0.000			0.100		0.066	11/06	Continuing	Continuing		
(BSP) System Integration	WX	NSWC, Panama City,	FL 0.000			0.232		0.160		Continuing	Continuing	<u> </u>	
Subtotal Product Development		,	0.000	0.000		1.129		0.341		0.000	1.470		
(BSP) Develop Logistics Products	WX	NSWC, Panama City,	FL 0.000		I	0.110	10/05	0.050	11/06	Continuing	Continuing	N/A	
(BSP) Develop Logistics Products	VVX	NSWC, Panama City,	FL 0.000			0.110	10/05	0.050	11/06	Continuing	Continuing	IN/A	
Subtotal Support			0.000	0.000		0.110		0.050		0.000	0.160		
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	)	
Remarks:	1	Taxas			1				T				
Program Mangement Support Travel	CPFF Various	CACI NAVSEA	0.000	<u> </u>		0.050		0.030		Continuing Continuing	Continuing Continuing		
	WX	NSWC, Panama City,				0.190		0.020		Continuing	Continuing		
		riorro, ramama ony,											
Government Engineering Support	VVA							0 100			0.400	· I	
	VVA		0.000	0.000		0.320	1	0.106	1	0.000	0.426	)	
Government Engineering Support	WX		0.000	0.000		0.320		0.106	<u> </u>	0.000	0.426	·I	

#### CLASSIFICATION:

							DATE:							
Exhibit R-3 Cost Analysis (p	age 1)									Februar	y 2006			
APPROPRIATION/BUDGET ACT	VITY	PRO	GRAM ELEMENT		PROJECT NU	PROJECT NUMBER AND NAME								
RDT&E, N / BA-4		0603	502N, Surface and Shall	ow Water MCM	1233 Mine Co	unter Measure	es Mid-Life Upg	rades						
Cost Categories	Method	Performing Activity &	Total PY s		FY 05	FY 05 Award	FY 06	FY 06 Award	FY 07	FY 07 Award	Cost to	Total	Target Value	
	& Type	Location	Cost			Date	Cost	Date	Cost	Date	Complete	Cost	of Contract	
Systems Engineering	Various	NSWC, PC/NAVAIR	R 0.348		0.465	11/04	0.703	11/05	0.708	11/06	Continuing	Continuing		
													N	
Subtotal Product Development			0.348		0.465		0.703		0.708		0.000	2.224		
Subtotal Product Development			0.348		0.465		0.703		0.708		0.000	2.224		
Remarks:	hand	lugue a	. 5			ı	1	1	1	1	1		1	
Software Development	WX SS/FFP	NSWC, Panama Ci	ty, FL 0.302		0.050	11/04	0.000	11/05	0.400	44/00	0.000			
Software Development Subtotal Support	55/FFP	SAIC	0.302		0.350 0.350	11/04	0.300		0.400		Continuing 0,000			
Subtotal Support			0.302		0.330	l	0.300	'	0.400		0.000	1.002	·L	
					0.000									
Subtotal T&E			0.000		0.000		0.000	1	0.000		0.000	0.000		
					0.000									
Remarks:					1 0.000									
Program Management Support	CPFF	CACI	0.110		0.058		0.050	10/05	0.045	10/06	Continuing			
Program Management Support			0.039			11/04 11/04					Continuing	Continuing		
Program Management Support Travel Government Engineering Support	WX	NSWC, Panama Ci	0.039 ty, FL		0.058 0.035	11/04	0.050		0.045		Continuing 0.000	Continuing 0.281		
Program Management Support Travel Government Engineering Support Program Management Support			0.039 ty, FL 0.068		0.058						Continuing 0.000 Continuing	Continuing 0.281 Continuing	N	
Program Management Support Travel Government Engineering Support Program Management Support SBIR Assessment	WX	NSWC, Panama Ci	0.039 ty, FL 0.068 0.019		0.058 0.035 0.089	11/04	0.103	10/05	0.178	10/06	Continuing 0.000 Continuing 0.000	Continuing 0.281 Continuing 0.000	N N	
Program Management Support Fravel Government Engineering Support Program Management Support	WX	NSWC, Panama Ci	0.039 ty, FL 0.068		0.058 0.035	11/04		10/05		10/06	Continuing 0.000 Continuing	Continuing 0.281 Continuing 0.000	N N	
Program Management Support Travel Government Engineering Support Program Management Support SBIR Assessment Subtotal Management	WX	NSWC, Panama Ci	0.039 ty, FL 0.068 0.019		0.058 0.035 0.089	11/04	0.103	10/05	0.178	10/06	Continuing 0.000 Continuing 0.000	Continuing 0.281 Continuing 0.000	N N	
Program Management Support Travel Government Engineering Support Program Management Support SBIR Assessment	WX	NSWC, Panama Ci	0.039 ty, FL 0.068 0.019		0.058 0.035 0.089	11/04	0.103	10/05	0.178	10/06	Continuing 0.000 Continuing 0.000	Continuing 0.281 Continuing 0.000	N N	
Program Management Support Travel Government Engineering Support Program Management Support SBIR Assessment Subtotal Management	WX	NSWC, Panama Ci	0.039 ty, FL 0.068 0.019		0.058 0.035 0.089	11/04	0.103	10/05	0.178	10/06	Continuing 0.000 Continuing 0.000	Continuing 0.281 Continuing 0.000 0.794	N N	

#### CLASSIFICATION:

0.000 a City, FL 0.000	0.000	0.0 0.0 0.0 0.0	45 10/05 05 10/05 44 10/05	0.000 0.050 0.005 0.025 0.080	10/06 10/06 10/06	Continuing Continuing Continuing 0.000	Continuing Continuing Continuing 0.174	N,	
a City, FL		0.0 0.0 0.0	45 10/05 05 10/05 44 10/05	0.050 0.005 0.025	10/06 10/06	Continuing Continuing Continuing	Continuing Continuing Continuing	N	
a City, FL		0.0 0.0 0.0	45 10/05 05 10/05 44 10/05	0.050 0.005 0.025	10/06 10/06	Continuing Continuing Continuing	Continuing Continuing Continuing	N/	
a City, FL		0.0 0.0 0.0	45 10/05 05 10/05 44 10/05	0.050 0.005 0.025	10/06 10/06	Continuing Continuing Continuing	Continuing Continuing Continuing	N	
	0.000	0.0	45 10/05 05 10/05	0.050 0.005	10/06 10/06	Continuing Continuing	Continuing Continuing		
0.000	0.000	0.0	45 10/05	0.050	10/06	Continuing	Continuing	N	
0.000	0.000		•						
0.000	0.000	0.0	00	0.000		0.000	0.000		
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0.000	0.000	[ 0.1	10	0.110		0.000	0.220	<u> </u>	
0.000	0.000	0.4	40	0.440		0.000	0.000		
		0.1	10 11/05	0.110	11/06	Continuing	Continuing	N/A	
0.000	0.000	0.8	68	0.852		0.000	1.720		
VAIN 0.000		0.6	11/05	0.652	11/06	Continuing	Continuing	N	
	Cost D		_			· ·		of Contract	
PY s	FY 05 A	ward FY 06	Award	FY 07	Award			Target Value	
,					FY 07				
			arados						
DROCPAM ELEMENT									
		DATE:			Fabruar.	. 2000			
)	Cost	Total	Total	PROGRAM ELEMENT    PROJECT NUMBER AND NAME	PROGRAM ELEMENT    603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME	PROGRAM ELEMENT   603502N, Surface and Shallow Water MCM	PROGRAM ELEMENT   603502N, Surface and Shallow Water MCM	

#### CLASSIFICATION:

	·					DATE:						
xhibit R-3 Cost Analysis (p	age 1)								Februa	ry 2006		
PPROPRIATION/BUDGET ACT	IVITY	PROGI	RAM ELEMENT	PROJECT N	UMBER AND	NAME						
RDT&E, N / BA-4		060350	2N, Surface and Shallow Water MCM	1233 Mine Co	ounter Measi	ures Mid-Life Upg	rades					
Cost Categories	Contract Method	Performing Activity &	Total PY s	FY 05	FY 05 Award	FY 06	FY 06 Award		FY 07 Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date		Date	Complete	Cost	of Contract
Systems Engineering	Various	NSWC, PC/NAVAIR				0.468	11/05			0.000	0.46	
												N
Subtotal Product Development			0.000	0.000	ס	0.468	3	0.000		0.00	0.46	8
												N/A
												N/A
Subtotal Support			0.000	0.000	)	0.000	)	0.000		0.000	0.00	0
Subtotal T&E			0.000	0.000	)	0.000	)	0.000		0.000	0.00	0
Remarks:												
												N
												N
Cubtatal Management			0.000	0.000	`	0.000		0.000		0.000	0.000	N
Subtotal Management			0.000	0.000	7	0.000	'I	0.000		0.000	0.00	U]
Subtotal Management  Remarks:			0.000	0.000	)	0.000	)	0.000		0.000	0.000	<u>0 </u>
GCCS TOTAL			0.000	0.000	-1	0.468		0.000		0.00	0.46	-1

#### CLASSIFICATION:

						DATE:							
Exhibit R-3 Cost Analysis (pa	ge 1)								Februar	y 2006			
APPROPRIATION/BUDGET ACTIV		PROGRAM	ELEMENT	PROJECT NU	JMBER AND	NAME			1				
RDT&E, N / BA-4		0603502N, S	Surface and Shallow Water MCM	1233 Mine Co	233 Mine Counter Measures Mid-Life Upgrades								
Cost Categories	Contract	Performing	Total		FY 05		FY 06		FY 07				
	Method	Activity &	PY s	FY 05	Award	FY 06	Award	FY 07	Award	Cost to	Total	Target Value	
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract	
Primary Hardware Development	WX	ARL:UT				3.410	11/05	3.750	11/06	Continuing	Continuing	1	
Ancillary Hardware Development	TBD	Contractor (TBD)				0.650	03/06	1.107	11/06	Continuing	Continuing	N/	
Tow Cable Development	WX	NSWC, Panama City, FL				0.850	10/05	0.330	10/06	Continuing	Continuing		
Ship Integration	WX	NSWC, Panama City, FL				0.425	10/05	0.245	10/06	Continuing	Continuing	ı	
Subtotal Product Development		•	0.000	0.000		5.335		5.432		0.000	10.767	,	
Remarks:		T			1					T		1	
(HFWB) Software Development	WX	ARL:UT; NSWC:PC				1.617	11/05	1.400	11/06	Continuing	Continuing	<b>'</b>	
(HFWB) Integrated Logistics Support Subtotal Support	WX	NSWC, Panama City, FL	0.000	0.000		0.850 2.467	10/05	1.000 2.400	10/06	Continuing 0.000	Continuing 4.867		
Remarks:													
Developmental Test & Evaluation	WX	NSWC:PC, ARL:UT				0.175	11/05	0.725	11/06	Continuing	Continuing	1	
Subtotal T&E			0.000	0.000		0.175		0.725		0.000	0.900	)	
Remarks:													
Program Management Support	Various	NAVSEA				0.662	10/05	0.774	10/06	Continuing	Continuing	) N/	
Travel	PD	Various											
Government Engineering Support	WX	NSWC, Panama City, FL				0.150	10/05	0.200	10/06	Continuing	0.350		
Subtotal Management			0.000	0.000		0.812		0.974		0.000	1.786	6	
Remarks:													
				0,000				9.531					
HFWB TOTAL			0.000			8.789				0.000	18.320		

#### CLASSIFICATION:

·		·	·	·		DATE:											
Exhibit R-3 Cost Analysis (p	age 1)					February 2006											
PPROPRIATION/BUDGET ACT	IVITY	PROGRAI	M ELEMENT	PROJECT N													
RDT&E, N / BA-4		0603502N	, Surface and Shallow Water MCM	1233 Mine Co	ounter Measur	es Mid-Life Upg	rades										
Cost Categories		Performing	Total		FY 05		FY 06		FY 07								
	Method	Activity &	PY s	FY 05	Award	FY 06	Award	FY 07	Award	Cost to	Total	Target Value					
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract					
												N					
Cultitatal Danduct Danielana and			0.000	0.000		0.000		0.000		0.000	0.000						
Subtotal Product Development			0.000	0.000	)	0.000	)	0.000	)	0.000	0.000	וע					
Software Development	SS/FFP	SAIC	2.084	1.987	11/04	2.112	2 11/05	5.043	11/06	Continuing	Continuing	1Ν/Δ					
Software Development	WX	NSWC, Panama, City, FI		1.907	11/04	2.112	11/03	3.043	11/00	Continuing							
Subtotal Support	***	110110, Fallama, Olly, Fa	2.305	1.987	,	2.112		5.043		0.000							
Subtotal T&E			0.000	0.000		0.000	)	0.000	)	0.000	0.000	)					
Remarks:	T.	Ta		<u>,                                      </u>			T										
Program Management Support	CPFF	CACI	0.196	0.094		0.150		0.245	10/06	Continuing							
Travel SBIR Assessment			0.061 0.054	0.063	11/04	0.01	5 10/05			Continuing 0.000	Continuing 0.054						
Government Engineering Support	WX	NSWC, Panama, City, FI			1	0.296	6 10/05	0.669	10/06	Continuing	Continuing						
Program Management Support	Various	NAVSEA	0.132	0.218	11/04	0.290	10/03	0.003	10/00	0.218							
Subtotal Management	vanous	IVAVOLA	0.443	0.375		0.46	1	0.914		0.218							
Remarks:	·				•			·									
MEDAL TOTAL			2.748	2.362	2	2.57	3	5.957	1	0.218	13.858	В					

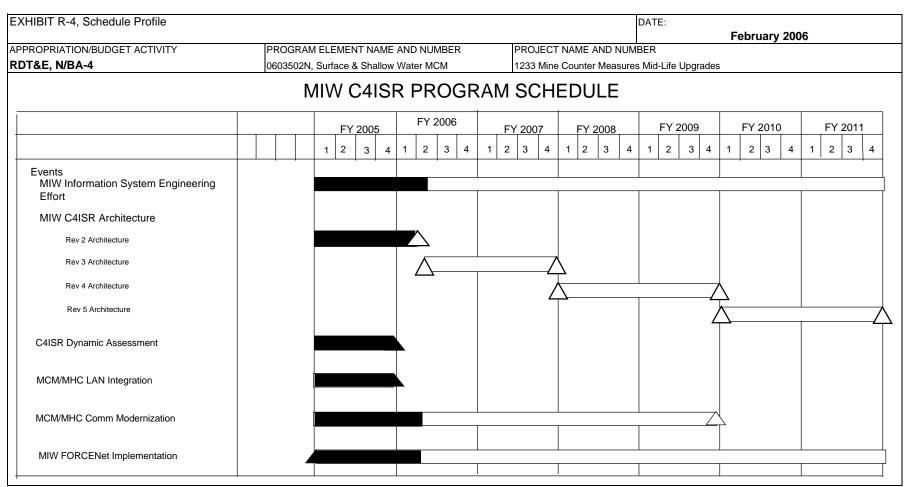
#### CLASSIFICATION:

							DATE:						
Exhibit R-3 Cost Analysis (p	age 1)									Februar	y 2006		
APPROPRIATION/BUDGET ACT	IVITY	PR	OGRAM ELEMENT		PROJECT N	IUMBER AN	D NAME				-		
RDT&E, N / BA-4		060	3502N, Surface and Shal	ow Water MCM	1233 Mine C	ounter Meas	ures Mid-Life U	ogrades					
Cost Categories		Performing	Total			FY 05		FY 06		FY 07			
	Method	Activity &	PY s		FY 05	Award	FY 06	Award	FY 07	Award		Total	Target Value
	& Type	Location	Cost		Cost	Date	Cost	Date	Cost	Date	- ·	Cost	of Contract
Primary Hardware Development	TBD	TBD							0.900	03/07	Continuing	Continuing	
Primary Hardware Development	WX/RCP	NSWC, Panama (	City, FL						0.600		Continuing	Continuing	N
Subtotal Product Development			0.000		0.00	10	0.0	000	1.500		0.000	1.500	
All work contracted to Raytheon	on the CPIF	contract was transfe	erred to Lockheed Martin	P contract and NSWC	C, CSS Panama City	, Florida.							
Logistics Support and Integration	Various	TBD							0.000		Continuing	Continuing	N/A
Subtotal Support		+	0.000		0.00	0	0.0	00	0.000		0.000	0.000	
Remarks:		<u> </u>											1
Subtotal Support			0.000		0.00	0	0.0	00	0.000		0.000	0.000	
Remarks:													
Contractor Engineering Support	CPIF	TBD							0.135	11/06	Continuing	Continuing	N
	WX	NSWC, Panama 0	City, FL	Ĺ					0.137		Continuing	Continuing	N
Government Engineering Support		NAVSEA							0.030		Continuing	Continuing	
Government Engineering Support Travel			0.000		0.00	0	0.0	00	0.302		0.000	0.302	
			0.000	'	•								
Travel		<u> </u>	0.000										
Travel Subtotal Support			, 0.000										

#### **CLASSIFICATION:**

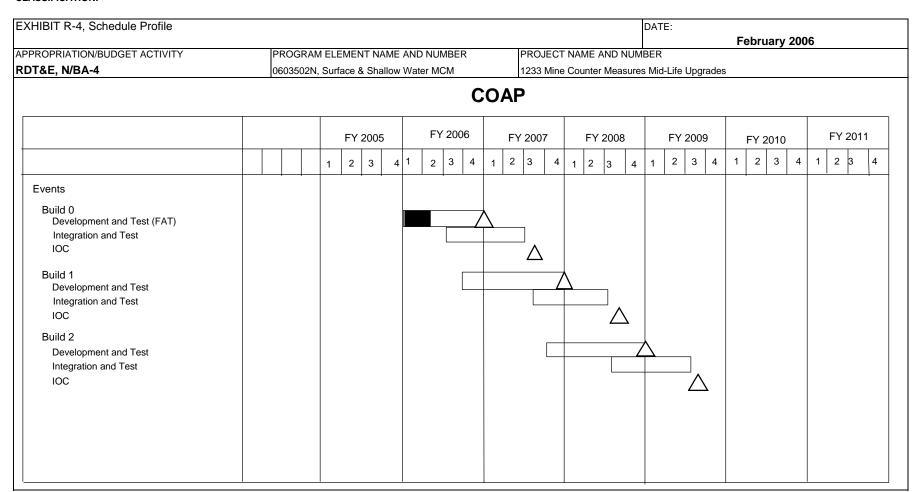
EXHIBIT R-4, Schedule Profile					DATE:	February 200	)6							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	I ELEMENT NAME	AND NUMBER	PROJECT NAME AND NUI	MBER									
RDT&E, N/BA-4	0603502N,	Surface & Shallow	Water MCM	res Mid-Life Upgrades										
	В	SP PRC	GRAM SC	HEDULE										
		FY 2005	FY 2006 FY 2	2007 FY 2008	FY 2009	FY 2010	FY 2011							
		1 2 3 4	1 2 3 4 1 2	3 4 1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4							
HW/SW Design and Development														
Preliminary Design Review														
Critical Design Review				_										
Env., Shock, & Safety Testing														
EDM Installation & C/O														

#### CLASSIFICATION:



R-1 SHOPPING LIST - Item No. 36

#### CLASSIFICATION:



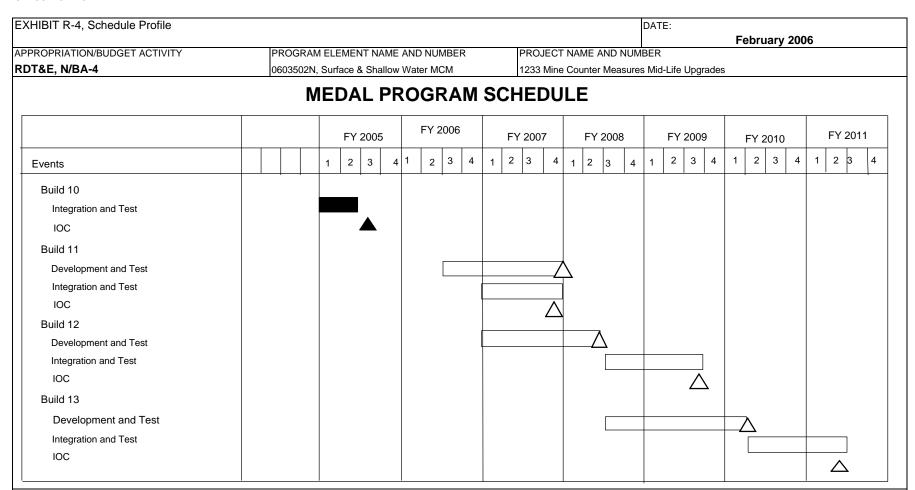
#### CLASSIFICATION:

(HIBIT R-4, Schedule Profile																				TE:				Fe	brua	ry 2	2006	;		
PROPRIATION/BUDGET ACTIVITY <b>T&amp;E, N/BA-4</b>		GRAM 502N,								?		PROJECT NAME AND NUMBER  1233 Mine Counter Measures Mid-Life Upgrades																		
	•						.x f			IC	M																			
				FY 2	2005	;		FY	′ 200	6		FY	200	7		FY	<b>′</b> 20	08		F	Y 20	009		F	Y 20	10		ı	FY 20	)11
Events			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2 3	3	4	1	2 3	3	4	1	2 3	4
Development and Integration of GCCS-M 4.x hardware:																														
M-class ships																														
Expeditionary units																														

#### **CLASSIFICATION:**

EXHIBIT R-4, Schedule Profile						DATE:									
EXTIBIT IC 4, Gonedale Frome					February 2006										
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT		R-1 ITEM NO	MENCLATURE	,								
RDT& E, N/BA-5		0603502N, Su	rface and Shallow V	Vater MCM	1233 Mine Co	ounter Measures Mid-Life Upgrades									
E. Schedule Profile															
HFWB S	ONAR I	MPRO\	/EMENT	r Progr	CHEDUL	_E									
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011							
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4							
				1 2 0 7		1 2 0 1									
Events															
Design & Fabrication			<u> </u>												
Integration Contractor Award															
Tow Cable Integration															
In-water Component Tests															
Component EQT Tests					\										
Ship Integration and At-sea Test															
						_									

#### CLASSIFICATION:



#### **CLASSIFICATION:**

XHIBIT R-4, Schedule Profile																			ا	DATE	:			Fe	brua	ry 2	006	6		
PROPRIATION/BUDGET ACTIVITY			OGRA													NAM														
DT&E, N/BA-4		060	03502N	l, Surl	ace 8	k Shal	low V	Vater	MCN	1			12	33 M	ine (	Coun	ter N	1eası	ures	Mid-l	_ife L	Jpgra	ades							
			Ν	ΙΕΙ	DA	L F	PR	OG	iR.	AM	S	SCI	ΗE	D	UL	_E	C	<b>ا</b> ا	١T	'D										
						FY 2005			FY 2006			FY 2007				F	Y 2	800			FY 2	2009		FY 2010				FY 2011		
				1	2	3	4	1 2	2 3	3 4	1	1 2	2 3		4	1 2	2 3	3	4	1	2	3	4	1	2	3	4	1 2	2 3	4
Events			•			•		•	•			•	•	•		•				·					•	·				•
Build 14  Development and Test Integration and Test																														

#### CLASSIFICATION:

EXHIBIT R-4, Schedule Profile						DATE:					
EXTIBITIVE, Concounter Follo						DATE.	February 200	06			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	I ELEMENT NAME	AND NUMBER	PROJECT	Γ NAME AND NUM	BER					
RDT&E, N/BA-4											
		USV PF	ROGRAI	M SCHE	DULE						
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011			
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4			
USV Contract Award				Δ							
SDD Phase											
CT/DT						$\triangle$					
ОТ											
LRIP Decision/Milestone C						$\triangle$					
LRIP Production											
Full Rate Production Decision											

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	Tobruom, 20	ne
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			IDDO IECT NILI	MBER AND NA	ebruary 20	06
RDT&BA-4	0603502N, S	Surface & Shallo				unter Measures	Mid-Life Upgr	
Schedule Profile: BSP		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
HW/SW Design and Development			1Q-4Q	1Q				
Prelminary Design Review Critical Design Review			3Q					
Critical Design Review			4Q					
Env., Shock, & Safety Testing EDM Installation & C/O			3Q-4Q	1Q-2Q				
EDM Installation & C/O				1Q				
	1							
	1							
	1							
	<u> </u>			1				

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:		
							February 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	IMBER AND NA	AME	
RDT&BA-4	0603502N, S	urface & Shallo	w Water MCM		1233 Mine Co	unter Measures	Mid-Life Upgr	ades
Schedule Profile: MIW C4ISR		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MIW Information System Engineering Effort		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MIW C4ISR Architecture:								
Rev 2 Architecture		1Q-4Q	1Q-2Q					
Rev 3 Architecture			2Q-4Q	1Q-4Q				
Rev 4 Architecture					1Q-4Q	1Q-4Q		
Rev 5 Architecture							1Q-4Q	1Q-4Q
C4ISR Dynamic Assessment		1Q-4Q						
MCM/MHC LAN Integration		1Q-4Q						
MCM/MHC Communication Modernization		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
MIW FORCEnet Implementation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No.

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#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:		
							ebruary 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA		
RDT&BA-4	0603502N, S	urface & Shallo	w Water MCM		1233 Mine Co	unter Measures	Mid-Life Upgra	ades
Schedule Profile: COAP		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Build 0 Development and Test			1Q-4Q					
Build 0 Integration and Tests			3Q-4Q	1Q-2Q				
Build 0 IOC				3Q				
Build 1 Development and Test			4Q	1Q-4Q				
Build 1 Integration and Test				3Q-4Q	1Q-2Q			
Build 1 IOC					3Q			
Build 2 Development and Test				4Q	1Q-4Q			
Build 2 Integration and Test					3Q-4Q	1Q-2Q		
Build 2 IOC						3Q		
				1	1			

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:		
							February 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-4	0603502N, S	urface & Shallo	w Water MCM		1233 Mine Co	unter Measures		ades
Schedule Profile: GCCS-M4.X		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development and Integration of GCCS-M 4.x hardware:  MCM Class								
MCM Class			Q1-Q4					
Expeditionary Units			Q1-Q4					
					+			
					1			
					+			
	+				1			
					†	1		

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	ebruary 200	)6
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-4	0603502N, S	Surface & Shallo	w Water MCM		1233 Mine Co	unter Measures	Mid-Life Upgra	ades
Schedule Profile: HFWB	, , , , , , , , , , , , , , , , , , ,	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Design/Fabrication		1 1 2000	1Q-4Q	1Q-4Q	1Q-3Q			
Integration Contract Award			3Q	-1 -1				
Tow Cable Integration				3Q-4Q	1Q-2Q			
In-Water Component Tests					1Q-2Q			
Component EQT Tests				1Q-4Q				
Ship Integration and At-sea Test					3Q-4Q			

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	February 20	106
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	I IMBER AND NA		
RDT8 BA-4	0603502N, S	urface & Shallo	w Water MCM		1233 Mine Co	unter Measures	s Mid-Life Upgra	ndes
Schedule Profile: MEDAL		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Build 10 Integration and Tests		1Q-2Q						
Build 10 IOC		3Q						
Build 11 Development and Test			3Q-4Q	1Q-4Q				
Build 11 Integration and Tests				1Q-4Q				
Build 11 IOC				4Q				
Build 12 Development and Test				1Q-4Q	1Q-2Q			
Build 12 Integration and Tests					3Q-4Q	1Q-3Q		
Build 12 IOC						3Q		
Build 13 Development and Test					3Q-4Q	1Q-4Q	1Q	
Build 13 Integration and Test							2Q-4Q	1Q-2Q
Build 13 IOC								2Q
Build 14 Development and Test							2Q-4Q	1Q-3Q
Build 14 Integration and Test								3Q-4Q
							1	
							1	
				20				

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	- h 00	00
APPROPRIATION/BUDGET ACTIVITY	PROGRAM I	LEMENT			IDDO IECT NIL	MBER AND NA	ebruary 20	06
RDT&BA-4	0603502N, S	Surface & Shallo				unter Measures		
Schedule Profile: USV		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
USV Contract Award				2Q				
SDD Phase				2Q-4Q	1Q-4Q	1Q		
CT/DT					4Q	2Q		
ОТ						4Q		
LRIP Decision/Milestone C						2Q		
LRIP Production						2Q		
Full Rate Production Decision							2Q	

R-1 SHOPPING LIST - Item No.

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**UNCLASSIFIED** 

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 43 of 98)

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUMI	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	Surface & Sha	llow Water MC	M, 0603502N			Unmanned Un	dersea Vehicle	2094			
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Cost to Complete	Program
Project Cost	300.966	58.745	53.805	42.224	56.773	60.020	108.618	160.047		Continuing	Continuing
RDT&E Articles Qty			2				1	4			7

#### A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The November 2004 UUV Master Plan establishes Intelligence, Surveillance, and Reconnaissance (ISR) as the Navy's top UUV priority. The second priority is to provide a clandestine, mine reconnaissance capability and Anti-Submarine Warfare is priority three.

The Unmanned Undersea Vehicle (UUV) project funds development of UUV systems consistent with the 2004 UUV Master Plan. The AN/BLQ-11 Long-Term Mine Reconnaissance System (LMRS) was being developed to provide a robust, long-term Fleet capability to conduct clandestine minefield reconnaissance. The LMRS Engineering Development Model (EDM) will be completed to mature and test critical technology for follow-on UUVs. The Advanced Development UUV (ADUUV) development will continue to mature and test critical modular UUV design technology for follow-on UUV programs. The UUV program will continue to mature key UUV technologies and sonar sensors for follow-on UUV programs. Planning has begun for a new acquistion program to develop a modular, reconfigurable 21" MRUUV System (MRUUVS) for contract award in FY07. The first payload developed by this program will support the MCM mission. Other modular payload developments will be initiated beginning in FY09. An AOA for the Large Displacement (LD) MRUUV was completed in FY04. The Office of Naval Research will develop technologies for payload sensors and increased autonomy to support risk mitigation for the UUV program. Technologies from these systems will transition to UUV during the FNC demonstration year. Technology Transition agreements between the Program office and ONR have been signed.

### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justifica	ation			DATE:
DODDIATION/DUDGET ACTIVITY	IDDOOD AM ELEMENT NUM	DED AND NAME	DDO JEOT NIJIMBED AND I	February 2006
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM		PROJECT NUMBER AND I	
T&E, N / BA-4	Surface & Shallow Water M	CM, 0603502N	Unmanned Undersea Vehic	ele 2094/2852
B. Accomplishments/Planned Program				
LMRS	FY 05	FY 06	FY07	
Accomplishments/Effort/Subtotal Cost	22.854	3.555	0.000	
RDT&E Articles Quantity	1			
Complete launch and recovery testing from	an SSN. Conduct contract closeout.			
ADUUV Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	an SSN. Conduct contract closeout.  FY 05 15.557	FY 06 12.959 1	FY07 0.000	
ADUUV Accomplishments/Effort/Subtotal Cost	FY 05 15.557	12.959 1	0.000	Mapping Array (LPUMA) with ADUUV for 21"
ADUUV Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Complete development of an Advanced Deve MRUUVS risk reduction.	FY 05 15.557 elopment Unmanned Undersea Vehicle	12.959 1 e (ADUUV) and integra	e Litttoral - Precision Underwater	Mapping Array (LPUMA) with ADUUV for 21"
ADUUV Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Complete development of an Advanced Deve	FY 05 15.557	12.959 1	0.000	Mapping Array (LPUMA) with ADUUV for 21"

R-1 SHOPPING LIST - Item No.

36

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 45 of 98)

#### **CLASSIFICATION:**

XHIBIT R-2a, RDT&E Project Justificat	ion			DATE: February 2006
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	BER AND NAME	PROJECT NUMBER AND I	NAME
T&E, N / BA-4	Surface & Shallow Water M		Unmanned Undersea Vehic	
B. Accomplishments/Planned Program				
LD MRUUV	FY 05	FY 06	FY07	
ccomplishments/Effort/Subtotal Cost	0.411	0.832	0.000	
DT&E Articles Quantity				
Conduct LD MRUUV requirements study.				
oridaet ED Mittoov Tequirements study.				

R-1 SHOPPING LIST - Item No.

36

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	Fohruary 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER A	ND NAME	February 2006
RDT&E, N / BA-4	Surface & Shallow Water MCM,	060325N		Unmanned Undersea	Vehicle Q2094	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding: FY06 President's Controls: FY07 President's Controls: Total Adjustments  Summary of Adjustments	FY 2005 59.965 58.745 -1.220	FY 2006 54.633 53.805 -0.828	FY 2007 52.176 42.224 -9.952			
Pay Rates Inflation Programmatic Changes Warfare Center Rates Miscellaneous Adjustments Subtotal	-1.220 -1.220	-0.828 -0.828	0.061 0.232 -10.007 -0.238			
<ul><li>(U) Schedule: Not Applicable</li><li>(U) Technical: Not Applicable</li></ul>						

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pi	oject Justification		DATE:						
									February 2006
APPROPRIATION/BUDGET A		PROGRAM ELEMENT NU			PROJECT NU				
RDT&E, N /	BA-4	Surface & Shallow Water	MCM, 0603502N		Unmanned Un	dersea Vehicle	2094		
(U) D. OTHER PROGRA	AM FUNDING SUMMARY:								
Line Item No. & Name		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
(U) E. ACQUISITION STR	ATEGY:								
A modular, reconfirgurable 2	1" MRUUVS will be initiated with a com	npetatively awarded contract	planned for FY07						

#### CLASSIFICATION:

Fullihit D. O. O. ot Analysis (no. 11.4)									DATE:		F-1	00	
Exhibit R-3 Cost Analysis (page 1) APPROPRIATION/BUDGET ACTIVITY			PROGRAM E	LEMENT			PROJECT NU	IMPED AND	NAME		February 20	U6	
RDT&E, N / BA-4					M OCCOPRONI								
Cost Categories	Contract	Performing	Surface & Sn	allow Water MC Total	IVI, 0603502IN	FY 05	Unmanned Ur	FY 06	CIE 2094	FY 07			
Cost Categories	Method	Activity &		PY s	FY 05	Award	FY 06	Award	FY07	Award			
	& Type	Location		Cost	Cost	Date	Cost	Date	Costs	Date			
LMRS	CPAF/IF	Boeing		119.529	10.544	N/A	0.800	N/A					
Fees				7.612									
LMRS	Various	Various		40.778	2.844	N/A	2.755	N/A					
ADUUV	CPIF	Lockheed Ma	artin	17.244	6.974	N/A	7.000	N/A					
ADUUV	Various	Various		14.873	3.049		2.717	,					
UUV P3I	Various	Various		37.383									
21" MRUUVS	Various	Various		4.200	19.923		27.232		28.377	TBD			
UUV Test center	Various	Various		7.502									
LD MRUUV	Various	Various			0.411		0.832						
Subtotal Product Development				249.121	43.745		41.336	3	28.377	,			
Development Support													
Software Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
Studies & Analyses													
GFE													
Award Fees													
Subtotal Support				0.000	0.000	)	0.000	)	0.000	)			
Remarks:													

#### CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)								271121		February 200	06	
APPROPRIATION/BUDGET ACTIV	TY		PROGRAM ELEMENT				PROJECT NU	MBER AND I	NAME				
RDT&E, N / BA-4			Surface & Shallow Water	MCM			Unmanned Un						
Cost Categories	Contract	Performing	Total			FY 05		FY 06		FY 07			
	Method	Activity &	PY s			Award		Award		Award			
	& Type	Location	Cost			Date	Cost	Date	Costs	Date			
Developmental Test & Evaluation	Various	Various		978	5.459	N/A		N/A		N/A			
Operational Test & Evaluation	WR	Various	0.0	000		N/A		N/A		N/A			
GFE/GFI	Various	Various	0.0	644		N/A		N/A		TBD			
TTLRF	WR	Various	7.0	081		N/A		N/A		N/A			
Award Fees													
Subtotal T&E			13.	703	5.459		0.000		0.000				
Contractor Engineering Support			6.	024	2.214	N/A	2.174	N/A	1.955	N/A			
Government Engineering Support			24.	119	4.076	N/A	4.990	N/A	4.450	N/A			
Program Management Support			7.	999	3.251	N/A	5.305	N/A	7.442	N/A			
Subtotal Management			38.	142	9.541		12.469		13.847				
Remarks:													
Total Cost			300.	966	58.745		53.805		42.224				
	•	•	,	•	-,		•						

#### VIRGINIA CLASS FOT&E

#### CLASSIFICATION:

EXHIBIT R4, Schedule Pro					lpp.c.	2041.		- LIT .		'D 41'5							DD0 :	FOT			DATE:				F	ebrua	ary 20	06				
APPROPRIATION/BUDGET AIR RDT&E, N /	CTIVITY					GRAM ce & SI						E							IUMBE Jnderse				52									
Fiscal Year		20	05			20	06			200	07			20	08			200	09			201	10			20	)11			201	2	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
Complete LMRS Baseline																																
ADUUV Development\		DTIIB	TECH	EVAL/0	DA .																											_
LPUMA Integration																																
21" MRUUVS			Risk R	eductio	n/Acqu	isition F	Planning	9																								
								MS B	Contra	ct Awar	rd			Design	/Devel	opmen	: / Test	Phase									MS C			LRIP		
arge Diameter Vehicle Launch and Recovery Risk Reduction														Large I	Displace	ement \	/ehicle	Risk Re	eduction	n												_
LD MR UUV Development Phase																					$\triangle$				Desig	n\Deve	lop LDM	IRUUV				_
																					MS B											
																																_
																																_

 $<sup>^{\</sup>star}$  Not required for Budget Activities 1, 2, 3, and 6

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:		
						F	ebruary 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-4	Surface & Sha	allow Water MC	M, 0603502N		Unmanned Ur	ndersea Vehicle	2094/2852	
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
LMRS							_	
DT II B	2Q							
TECHEVAL / Operational Assessment	3Q							
21" Reconfigurable UUV								
MS B		4Q						
Contract Award		1.0	1Q					
MS C							3Q	
LD MRUUV								
MS B						1Q		
					<u> </u>			

R-1 SHOPPING LIST - Item No.

36

**UNCLASSIFIED** 

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 52 of 98)

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT N	JMBER AND NAM	ΛΕ	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shallow Water M	1CM		2131 Assault E	Breaching Syste	ems			
	Prior									Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Program
Project Cost	190.493	15.7	21 28.777	37.083	36.116	35.367	30.562	29.513	Continuing	Continuing
RDT&E Articles Qty										0

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides US Navy projects planned to counter the threat to amphibious landing forces from known and projected foreign land/sea mines and obstacles in the beach zone and surf zone approaches to amphibious assault areas. It develops a system of systems (Countermine/Counter Obstacle, Intelligence/Surveillance/Reconnaissance/Targeting (ISR/T), Navigation/Virtual Marking/Integration, C4I/Data Fusion) to provide a full assault breaching capability. Funding in FY 2004 is a Congressional Plus-Up for Venom Penetrator (part of the Counter mine demonstration).

The Counter Mine (CM) system will transition from a 6.3 S&T Concept Demonstration effort to a 6.4 development program after a concept decision/AoA in FY06. Three 6.3 S&T concepts will demonstrate the countermine technology by the beginning of FY05. A concept/decision/AoA will occur in FY05 and one of the concepts or a combination of the technologies will be chosen to move into the 6.4 development phase as the CM System (far-term).

A near-term Counter Mine/Counter Obstacle (CM/CO) system is also being characterized at the 6.3 S&T level to be used in the Fleet as an interim CM/CO capability until the "Far-Term" CM system is developed. This near-term system Joint Directed Attack Munition (JADAM) JDAM Assault Breaching System (JABS) consists of in-service MK 84 general purpose bombs with a JDAM tail kit. This system is already being used in the fleet, however it is being characterized for a limited assault breaching mission. Some Follow-On-Test and Evaluation (FOT&E), risk mitigation, logistics, and operational readiness concerns need to be addressed for the ABS mission with ABS funding.

The ISR/T capability is being provided by the Coastal Battlefield Reconnaissance & Analysis (COBRA) system. COBRA consists of three block capabilities which will all be integrated into the Fire Scout Unmanned Aerial Vehicle (UAV) as Littoral Combat Ship (LCS) Mission Modules. Block I capability is to detect surface laid mine lines on the beach (daytime) using Multi-spectral imaging. Block II will incorporate active laser technology which will transition from 6.3 S&T to detect surface laid mine lines in the surf zone (day and night). Block III will transition technology from 6.3 S&T to detect buried mine lines and will include on-board near real-time processing of imagery data.

The navigation effort involves requirements development and program planning to choose the navigational upgrades for the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU) to enable the craft to safely navigate the neutralized assault lanes. OP,N will fund the CRAFTALTS to upgrade the navigation systems.

After the assault lane has been neutralized, virtual or physical marking systems need to be developed to mark where the lane has been cleared and guide the assault craft through the lane.

Command, Control, Computers, Communications and Intelligence (C4I) will tie all of the above systems together under an integrated ABS architecture and also tie in with the integrated Mine Warfare architecture.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justifica	ation	DATE:	
		Fe	bruary 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	2131 Assault Breaching Systems	
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	2131 Assault Breaching Systems	

#### (U) B. Accomplishments/Planned Program

Product Development	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	10.063	19.110	30.812
RDT&E Articles Quantity			

#### Product Development:

Venom Penetrator. Far term technology maturity (Counter mine), ISR/Targeting Development (COBRA), Government Furnished Equipment (GFE): Mine Threat Acquisition for R&D Development and Testing, DDGPS Development (Marking). Counter Mine System Development Contract beginning in FY06.

Support	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	1.237	1.125	0.357
RDT&E Articles Quantity			

#### Support:

Venom Penetrator. Mine Burial Effects/Mine Case/TNT Studies in support of requirements development, Fuse Vulnerability Studies. Tactical Decision Aid Development, Modeling and Simulation in support of Far-Term Development. ABS Scalability study.

R-1 SHOPPING LIST - Item No.

36

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 54 of 98)

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justific	ation		DATE:
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	February 20
DT&E, N / BA-4	0603502N, Surface and Shallow Water MCM	2131 Assault Breaching Sys	
DIGE, N / DA-4	0003302N, Surface and Shallow Water Michi	2131 Assault Breaching Sys	sterris
J) B. Accomplishments/Planned Program			
Test and Evaluation	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.331	2.865	0.170
RDT&E Articles Quantity			
Test and Evaluation: Venom Penetrator. Near Term (JABS) Risk	Mitigation Testing; Commander Operational Test & Evaluation	on Forces Test Support.	
, ,	gao comg, comaa operational root a grandal		
Managamani			EV07
Management Accomplishments/Effort/Subtotal Cost	FY05	FY06	FY07
Management Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity			FY07 5.744
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Management: Venom Penetrator. Program managements	FY05 4.090  support, In-house contractor support (CACI, COMOPTEVFOR	FY06 5.677  R, and Northrop Grumman). Tech	5.744  nical Direction Agent/Design
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Management: Venom Penetrator. Program management of Agent (TDA/DA) Engineering Support of Mill Requirements Generation - Initial Capabilities	FY05 4.090	FY06 5.677  R, and Northrop Grumman). Tech eparation, contract and acquisition D), Capability Production Docume	5.744  nical Direction Agent/Design documentation, nts (CPD), Analysis of
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity  Management: Venom Penetrator. Program management s Agent (TDA/DA) Engineering Support of Mi Requirements Generation - Initial Capabilitie Material approvals and Functional needs an	support, In-house contractor support (CACI, COMOPTEVFOR ssion Area Analysis, Analysis of Alternatives, Milestone B pres Document (ICD), Capability Development Documents (CD)	FY06 5.677  R, and Northrop Grumman). Tech eparation, contract and acquisition D), Capability Production Docume	5.744  nical Direction Agent/Design documentation, nts (CPD), Analysis of

R-1 SHOPPING LIST - Item No.

36

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 55 of 98)

#### CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE:
					February 2006
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURI	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-4			2131 Assault Breaching Sys	etems
(U) C. PROGRAM CHANGE SUMMARY:					
(U) C. PROGRAM CHANGE SUMMARY:	FY 2005	FY 2006	FY 2007		
FY06 President's Budget	26.808	29.215	37.530		
FY07 President's Budget	15.721	28.777	37.083	<u> </u>	
Total Adjustments	(11.087)	(0.438)	(0.447)		
Summary of Adjustments					
Inflation	0.000	0.000	0.167		
Pay Rates	0.000	0.000	0.053		
Programmatic Changes	(11.087)	(0.438)	(0.667)	<u>_</u>	
Subtotal	(11.087)	(0.438)	(0.447)		
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					
Not Applicable					

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E	E Project Justification						DATE:			
								Febru	ary 2006	
PPROPRIATION/BUDGE	T ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAI	ME	PROJECT NU	IMBER AND N	AME			
RDT&E, N /	BA-4	0603502N, Surface and Sha	llow Water MC	M	2131 Assault	Breaching Sys	tems			
(U) D. OTHER PRO	GRAM FUNDING SUMMARY:									
Line Item No. & N	ame	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
2624 / OPN	<u>ame</u>	0.000	2.247	8.269	1 1 2000	1 1 2003	112010	1 1 2011	Complete	<u>0031</u>
of Amphibious for Amphibious the need for fut develop ISR/Ta	FY05 Initial Capabilities Docun Operations in a Mined Environn Operations in a Mined Environ ure funding. The FY04 funding orgeting systems and Navigation	nent (ICD) and Capability Development Doo nent leading to a MS B decision during FY ment. The FY04 and FY05 tasks will also g was crucial to maintaining the inventory o n systems to support the Assault Breaching evelopment in FY06. Development of Block	706. The Function allow the Navignon for threat mines of Mission. Miles	tional Area Ar yy to demonst that will be rec estone B for C	nalysis (FAA) wil rate the viability quired for future ountermine syst	I provide the for of concepts for mine lethality a em developme	oundation for the r Far Term Systand vulnerabilite and vulnerabilitent will occur in	ne "system of systems of Systems ty tests. The FYO6 followed I	stems ICD/CDD r capabilities and Y04 and FY05 tas by a developmen	equired justify ks will :
funding will beg	in development of the COBRA	Block II system to detect mine lines in the \$ 00 OPN will also continue the Navigation u	Surf Zone. The	e OPN in FY0	6 will go toward	funding Naviga	ational upgrade	es to the LCAC a	and LCU craft for	

#### CLASSIFICATION:

							DATE:						
Exhibit R-3 Cost Analysis (pag	ge 1)									Februa	ary 2006		
APPROPRIATION/BUDGET ACTIV	ITY		ROGRAM ELEMENT		PROJECT N	IUMBER ANI	D NAME						
RDT&E, N / BA-4			03502N, Surface and Sha	Illow Water MCM	2131 Assaul		Systems			,		_	
Cost Categories	Method	Performing Activity & Location	Total PY s Cost		FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	IH, NSWC:PC, N	G 55.205		10.063	11/04	19.110	02/06	30.812	02/07	Continuing	Continuing	N/A
Ancillary Hardware Development	WX	IH, NSWC:PC, T	BD 8.100								0.000	8.100	N/A
Systems Engineering	WX	IH, NSWC:PC	17.033								Continuing	Continuing	N/A
Training Development	WX	IH, NSWC:PC	2.000								0.000	2.000	N/A
Tooling	WX	IH, NSWC:PC, T	BD 0.860								0.000	0.860	N/A
GFE	WX	IH, NSWC:PC	4.700								0.000	4.700	N/A
Subtotal Product Development			87.898		10.063		19.110	)	30.812	2	0.000	147.883	
Remarks:													

#### CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis (p	age 1)										Febru	ary 2006		
APPROPRIATION/BUDGET ACT		PROGRA	AM ELEMENT			PROJECT N	NUMBER ANI	D NAME				-		
RDT&E, N / BA-4			N, Surface and Sh	allow Water N	ИСМ	2131 Assaul	It Breaching S	Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support Equipment	WX	IH, NSWC:PC, SAIC	11.721			0.185	06/05	0.725	11/05	0.257	11/06	Continuing	Continuing	N/A
Software Development	WX	NSWC:PC	8.037	,									8.037	7 N/A
Integrated Logistics Support	WX	IH, NSWC:PC	2.712										2.712	N/A
Configuration Management	WX	IH, NSWC:PC	3.744										3.744	4 N/A
Technical Data	WX	IH, NSWC:PC	2.588										2.588	N/A
Studies & Analysis	WX	IH, NSWC:PC	2.587			1.052	11/04	0.400	11/05	0.100	11/06	Continuing	Continuing	3
GFE	WX	IH, NSWC:PC	0.400										0.400	N/A
														+
														1
														<del>                                     </del>
									1	+				+
Subtotal Support			31.789			1.237	,	1.125	5	0.35	7	0.000	0 34.508	3
Gubtotal Gupport			31.703			1.237	1	1.12	7	0.55	<u> </u>	0.000	04.000	1
Remarks:														

#### CLASSIFICATION:

Exhibit R-3 Cost Analysis (page							DATE:						
										Febru	ary 2006		
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM E				NUMBER ANI							
RDT&E, N / BA-4	1.			allow Water MCM	2131 Assau	It Breaching S	Systems			1		1	
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX, PD	IH, NSWC:PC TBD	26.422		0.331	11/04	2.865	11/05	0.170	11/06	Continuing	Continuing	N/A
Operational Test & Evaluation	WX	IH, NSWC:PC TBD	8.655									8.655	N/A
Tooling	WX	IH, NSWC:PC TBD	0.700									0.700	N/A
GFE	WX	IH, NSWC:PC TBD	0.400									0.400	N/A
Award Fees													
Subtotal T&E			36.177		0.33		2.86	5	0.170	)	0.000	39.543	в
	1		1		1	1		1		1	1		
Contractor Engineering Support	CPFF	CACI, Northrup Grumman	3.089		0.700	1	0.878		0.904		Continuing	<u> </u>	
Government Engineering Support	WX	IH, NSWC:PC	19.053		1.797	11/04	1.83	11/05	1.950	11/06	Continuing	Continuing	N/A
Government Engineering Support Program Management Support	WX WX	IH, NSWC:PC IH, NSWC:PC, NAVSEA	19.053 11.537		1.797 0.207	7 11/04 7 11/04	1.835 2.889	11/05 11/05	1.950 2.815	11/06	Continuing Continuing	Continuing Continuing	N/A N/A
Government Engineering Support Program Management Support Travel	WX WX PD	IH, NSWC:PC IH, NSWC:PC, NAVSEA NAVSEA	19.053 11.537 0.877		1.797 0.207 0.025	7 11/04 7 11/04 5 11/04	1.83	11/05 11/05	1.950	11/06	Continuing	Continuing Continuing Continuing	N/A N/A N/A
Government Engineering Support Program Management Support Travel Assessment/BTR	WX WX	IH, NSWC:PC IH, NSWC:PC, NAVSEA	19.053 11.537 0.877 0.073		1.797 0.207 0.028 1.36	7 11/04 7 11/04 5 11/04	1.838 2.888 0.078	11/05 11/05 11/05	1.950 2.815 0.075	11/06 11/06 11/06	Continuing Continuing Continuing	Continuing Continuing Continuing Continuing	N/A N/A N/A N/A
Government Engineering Support Program Management Support Travel	WX WX PD	IH, NSWC:PC IH, NSWC:PC, NAVSEA NAVSEA	19.053 11.537 0.877		1.797 0.207 0.025	7 11/04 7 11/04 5 11/04	1.835 2.889	11/05 11/05 11/05	1.950 2.815	11/06 11/06 11/06	Continuing Continuing	Continuing Continuing Continuing Continuing	N/A N/A N/A N/A

#### **CLASSIFICATION:**

EXHIBIT R-4, Schedule Profile															DAT	E:			F	ahı	ruar	v 20	006				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM									JECT									<u>'</u>	CDI	uai	y 20	<del>,00</del>				
RDT&E, N/BA-4	0603502N,								2131					Syst	tems												
	Α	BS	PF	RO	)G	R/	M۸	S	CHE	ED	U	LE	•														
		FY	2005			FY 2	2006		FY 2007	7		FY 2	008			FY 2	2009			FY	2010	 )		FY	´ 201	1	
		1 2		4	1	2	3 4	1	2 3	4	1	2	3	4	1	2	3	4	1	2	$\overline{}$		+		2 3		4
Milestones MS B	(COBRA) Block	1		<b>I</b>	!		MS B (CI	V)	ļ.											1							
ONR 6.3 Demo Efforts								Exp	CM and Coloration/Tec																		
CMCO Acquisition/Development 6.4															CM an	d CO	System	n Deve	lopmen	nt			+				
		[	Draft CDD	/Approv	/al																						7
				ļ		p for MS tract Awar	d \		л - CO act Award																		
CMCO System Design and Test					Г							Svste	m De	esiar	n/Plat	form	Inte	aratio	on.				_				$\dashv$
					Ĺ																						4
							•																				
CMCO Technical Reviews							Contrac Kickoff	t SRR	SFR 🔷	SSF	PDI	<b>&gt;</b>			\$ ■ BA	CDR											
ISR/Navigation/C4I Development									System I	Develo	pme	nt											+				

#### CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						F	ebruary 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-4	Program Eleme	ent (PE) No. ar	nd Name		2131 Assault E	Breaching Syste	ems	
Schedule Profile: ABS		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CM and CO Exploration/Technology Demonstration 6.3(O	1	1Q-4Q	1Q-4Q					
COBRA Milestone B		2Q						
MAA/MNS/Risk Mitigation/Requirements Devel:								
Draft CDD/Approval		1Q-4Q	1Q					
MS B (CM-BZ CO)			2Q					
Prep for MS B/Contract Award			1Q-3Q					
CM and CO System Development			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
CM- BZ CO Contract Award			4Q					
System Design/Platform integration			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Technical Reviews:								
Contract Kickoff			4Q					
SRR - System requirements Review				1Q				
SFR- System Functional Review				3Q				
SSR - System Software Review				4Q				
PDR - Preliminary Design Review					1Q			
EOA - Early Operational Assessment						1Q		
CDR- Critical Design Review						2Q		
ISR/NAV/C4I Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
			•					
								<del>                                     </del>

R-1 SHOPPING LIST - Item No.

36

3

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shall	low Water MCN	М		3102 Low Fred	quency Broadba	and			
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Cost to Complete	Program
Project Cost	0.000	0.000	9.702	0.000	0.000	0.000	0.000	0.000			9.702
RDT&E Articles Qty							· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Low Frequency Broadband (LFBB) is a development program for providing Low-frequency, broadband (LFBB) sensor and processor payload for an unmanned, underwater vehicle (UUV). The project provides a needed capability for detection of buried mines and identification of mines by a combination of imaging and non-imaging signal processing technologies. This technology is being transitioned from ONR projects, which have demonstrated the technology, but need to be transitioned into a system. Funding for this program has been trasferred to the Surface Mine Countermeasures Unmanned Undersea Vehicle (SMCM UUV, Project 3123) starting in FY07.

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	on			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUME	BER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-4	0603502N, Surface and Shall	ow Water MCM	3102 Low Frequency Broadband		
(U) B. Accomplishments/Planned Program			. ,		
Product Development	FY 05	FY 06	FY 07		
Accomplishments/Effort/Subtotal Cost	0.000	9.702	0.000		
RDT&E Articles Quantity					
Design and prototyping of critical technology co					

#### **CLASSIFICATION:**

XHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2006
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	
DT&E, N / BA-4	Surface & Shallow Water MCM,	060325N		3102 Low Frequency Broadband	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2005	FY 2006	FY 2007		
FY06 President's Budget Controls:	0.000	9.850	15.470		
FY07 President's Budget Controls:	0.000	9.702	0.000		
Total Adjustments	0.000	-0.148	-15.470		
Summary of Adjustments					
Programmatic Changes			-15.470		
Other General Provisions		-0.148			
Subtotal	0.000	-0.148	-15.470		
(II) Oak adula.					
(U) Schedule: Not Applicable					
. Total ppinoadio					
(U) Technical:					
Not Applicable					

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pro	ect Justification								DATE: February 2006
APPROPRIATION/BUDGET AC	TIVITY		PROGRAM EL	EMENT NUME	RER AND NAM	F	PROJECT NUI	MBER AND NA	
RDT&E, N /	BA-4		0603502N, Sur				3102 Low Freq		
,,			0000002.1, 00.		<u> </u>		10.02.2011.104	140110) 2104420	
(U) D. OTHER PROGRA	M FUNDING SUMMARY:								Total
Line Item No. & Name		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Total <u>Complete Cost</u>
									<u> </u>
(U) E. ACQUISITION STRA	ATEGY:								
NSWC Panama City	FI and NRI will award a d	contract to ac	Idress the critica	al technologies	necessary for	the developm	ent of the I FRE	B Sonar Proci	urement is scheduled to start in FY10.
rtorro, r anama on	TE and Title Will award a c	onitiaet to ac		ii toorii lologioo	nooccoury for	aro dovolopin	0.11.01.11.0 21.22	onar. Troo.	aromonic to contocuted to chart in 1 1 10.

#### CLASSIFICATION:

								DATE:			•		
Exhibit R-3 Cost An	alysis (page 1)								February	2006			
APPROPRIATION/BUD		PROGRAM					JMBER AND I						
RDT&E, N /	BA-4		Surface and Sha	llow Water MC		3102 Low Fre	equency Broad	band					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date		Cost to Complete	Total Cost	Target Value of Contract
ADM Hardware Develop		Contractors - Two (TBD)	0001	0001	Duic	5.10		0001	Date		Complete	5.102	
ADM Hardware Develop	mont	Contractors - Two (TBB)				3.10.	03/00					3.102	-
													+
						+	1						+
													+
						_	+						
							1						
Subtotal Product Develop	pment		0.000	0.000		5.10	2					5.102	2
Remarks:  Software Development		Contractors (TBD)		T	T	2.35	03/06	1				2.350	<u> </u>
	1407	NSWC, Panama, City, FL										0.250	JI
Integrated Logistics Suppo	ort WX	NSWC, Panama, City, FL					<b>.</b>						
						0.25	)	1				0.250	
						0.25	)					0.250	
						0.25	)					0.250	
						0.25						0.250	
						0.25						0.25(	
						0.25						0.25(	
						0.25						0.25(	
						0.25						0.25(	
						0.25						0.25(	
						0.25						0.25(	

#### CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis (pag	ge 2)								Februa	ry 2006				
APPROPRIATION/BUDGET ACTIVI	TY	PROGRAM E	LEMENT			PROJECT NU						•		
RDT&E, N / BA-4		0603502N, Si	urface and Shal	low Water MCN	Л	3102 Low Free	quency Broadb	oand						
Cost Categories	Contract	Performing	Total		FY 05		FY 06		FY 07		FY 07			
	Method		PY s		Award	FY 06	Award	FY 07	Award			Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date			Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NSWC:PC, NRL				0.550	03/06						0.550	N/A
														N/A
														N/A
Subtotal T&E			0.000	0.000		0.550		0.000	)	0.000			0.550	
						•			•			•	•	
Government Engineering Support	WX	NSWC, Panama, City, FL				0.650							0.650	N/A
Program Management Support	Various	Various				0.800							0.800	N/A
														N/A
														N/A
														N/A
Subtotal Management			0.000	0.000		1.450		0.000	D	0.000			1.450	
Remarks:														
Total Cost			0.000	0.000		9.702		0.000	)	0.000			9.702	
Remarks:														

#### CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																		DATE	=:			Fel	oruai	y 200	06			
PPROPRIATION/BUDGET ACTIVITY					IENT N								OJECT															
RDT&E, N/BA-4					e & Sh						<u> </u>		2 Low								_							_
LOW I	FKE	=QI	JE	:IV(	۲ر	BI	<b>(</b>	JΑ	DB	Al	N	ו	PK	((	JG	iK/	A۱	/  :	5(	Н		DU	)Lt	=				
	F	Y 2005		F	Y 2006	6	F	Y 20	07		FY	′ 200	18		FY	2009	9	F۱	Y 20	10		FY	2011					
		2 3	4	_	2 3	4		2		1	T	2 3	1	1	1	1	4	1	2	3	4	1	2 3	4	1	2	3 4	_
	<u>                                     </u>	-   3	<u> </u>	<u>'</u>  '	2   3	4	- 1		3   4	+'		2 3	4	<u> </u>		ا ا	4	_'_		3	4	'	2 3	-	'		<u> </u>	_
ADM Contract Award					Δ																							
Critical Technology Development																												

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	February 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI				PROJECT NU	IMBER AND N	AME	
RDT&BA-4	0603502N, Su	ırface & Shallov	w Water MCM		3102 Low Free	quency Broadb	and	
Schedule Profile: LFBB	FY 2005	FY 2006	FY 2007	FY 2008		FY 2010		
ADM Contract Award		3Q						
Critical Technology Development		3Q - 4Q						
					1			
					1			
					1			

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2006	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND						MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Surface and Shallow Water MCM 3123 SMCM UUV										
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Cost to Complete	Program
Project Cost	0.000	0.000	1.047	11.222	7.333	12.443	24.049	20.131		Continuing	Continuing
RDT&E Articles Qty											

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface Mine Countermeasure Unmanned Undersea Vehicle (SMCM UUV) provides for development of Unmanned Underwater Vehicles to support dedicated mine countermeasure operations. The UUV systems must have a small deployment footprint for rapid employment aboard various SMCM platforms. Equipment includes Launch Recovery Sub-Systems and associated systems support equipment.

\*This effort was previously budgeted for in PE 0603654N, project 4024. The project was moved to 0603502N so that all of the UUV funding would fall into one R&D PE. In addition, funding from PE 0603502N 3102 was transferred to this line to fund an integrated UUV system vice a standalone sensor project.

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:						
					uary 2006		
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	IBER AND NAME	PROJECT NUMBER AND NAME				
DT&E, N / BA-4	0603502N, Surface & Shalle	ow Water MCM	3123 SMCM UUV				
I) B. Accomplishments/Planned Program							
SMCM UUV	FY 05	FY 06	FY 07		7		
Accomplishments/Effort/Subtotal Cost	0.000	1.047	11.222		1		
RDT&E Articles Quantity							
Demonstrate operation of a UUV-based capabili Starting in FY06 effort was moved from Program	Element 0603654N, Project 4024	. The funding was moved	to 0603502N so that all of the	UUV funding would fall into or	ne R&D PE.		
				<u> </u>	7		
Total	0.000	1.047	11.222		٦		

R-1 SHOPPING LIST - Item No.

36

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:
ADDROUDE A CONTRACTOR		AND MAKE		DDG ISOT NI IMBED AND N	February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER			PROJECT NUMBER AND N	NAME
RDT&E, N / BA-4	Surface & Shallow Water MCM,	060325N		3123 SMCM UUV	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2005	FY 2006	FY 2007		
FY06 President's Budget Controls:	0.000	1.063	1.761		
FY07 President's Budget Controls:	0.000	1.047	11.222		
Total Adjustments	0.000	-0.016	9.461		
Summary of Adjustments					
Pay Rates			0.016		
Inflation			0.052		
Programmatic Changes			9.419		
Warfare Center Rates			-0.026		
Other General Provisions	<del></del>	-0.016			
Subtotal	0.000	-0.016	9.461		
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					

#### CLASSIFICATION:

XHIBIT R-2a, RDT&E	DT&E Project Justification								Februa	ary 2006
PPROPRIATION/BUDGET	ACTIVITY	PROGRAM E	LEMENT NUM	BER AND NAM	ИΕ	PROJECT NU	JMBER AND N	AME	. 5.5. 40	,
DT&E, N /	BA-4		Surface & Shallo			3123 SMCM I				
(II) D. OTHER PROC	GRAM FUNDING SUMMARY:	<u> </u>								
(O) D. OTTLER PROC	SKAW I ONDING SOMMAKT.								То	Total
Line Item No. & Na	<u>me</u>	<u>FY 2005</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	<u>Complete</u>	Cost
(U) E. ACQUISITION S	TRATECY:									
	IKAIEGI.									
frequency Syn	JV Analysis of Alternatives (AO: thetic Aperture Sonar User Ope FY08 to procure Unmanned Und	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		
frequency Syn	UV Analysis of Alternatives (AO:	rational Evaluation Syster	ns of 2 vehicles	each in FY06	with delivery i	n early FY08 fo	r continued Fle	et experimenta		

#### **CLASSIFICATION:**

										DATE:					
Exhibit R-3 Cost Analysis (page 1)										February 2006					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM							AND NAME						
RDT&E, N / BA	<b>\-4</b>		Surface & Shall	w Wate		3123 S									
Cost Categories		Performing	Total	E) / 0.5	FY 05	E) ( 00	FY 06	E) ( 07	FY 07		0 11	<b>-</b>	<b>.</b>		
	Method & Type	Activity & Location	PY s Cost	Cost	Award Date	FY 06 Cost	Award Date	Cost	Award Date		Cost to Complete	Total Cost	Target Value of Contract		
Dual Freq SAS Hardware Development	CPAF	TBD	0.000		Date	COSI	Date	8.153			Continuing	Continuing	or Contract		
	WX	NSWC Panama City, FL				0.504	F/0C					<u> </u>			
Software Development SMCM UUV Contractors			0.000			0.584		0.450			Continuing	Continuing			
SMCM 00 v Contractors	CPFF	Multiple	0.000	<u>'</u>		0.041	5/06	0.091	11/06						
						-									
						-									
				-		-									
Subtotal Product Development			0.000	0.000	)	0.625		8.694			0.000	9.319			
Engineering Support	WX	NSWC Panama City, FL				0.113	4/06	1.807	11/06						
Engineering Support	WX	NUWC Newport, RI						0.301	11/06						
Subtotal Support						0.113		2.108			0.000	2.221			
	l .		II.	1			ı			1					
Remarks:															
			D 4 01101	_	-										

#### **CLASSIFICATION:**

										DATE:			
Exhibit R-3 Cost Analysis (page	e 2)										Februar	y 2006	
APPROPRIATION/BUDGET ACTIVIT	ΓΥ	PROGRAM E							ND NAM	1E			
RDT&E, N / BA-4	T _		urface & Shallo					JV	1		<u> </u>		1
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05	FY 05 Award Date	FY 06	FY 06 Award Date	FY 07	FY 07 Award Date		Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	CMWC, Corpus Christi, TX	0.000			0.120	4/06	0.120	11/06		Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.120		0.120			0.000	0.240	
Remarks:													
Program Management Support	CPFF	Anteon, Wash, DC						0.120	11/06		Continuing	Continuing	
Government Engineering Support	CPFF	EDO, Corpus Christi, TX				0.189	4/06	0.180	11/06		Continuing	Continuing	
Subtotal Management			0.000			0.189		0.300			0.000	0.489	
Remarks:													
Total Cost			0.000	0.000		1.047		11.222		0.000	0.000	12.269	
Remarks:			D 1 SHOD	DIME				26					

#### **CLASSIFICATION:**

# **UNCLASSIFIED**

EXH	IBIT R-4, Schedul	e Profile			DATE: <b>F</b> e	ebruary 2006							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEI 0603502N, Surfa				MBER	-							
		SMCM UUV P	rogram Schedu	ıle									
FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011													
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4			1 2 3 4	1 2 3 4					
SMCM Shallow & Deept Water UUV Notional CONOPS (AOA) Study Requirements Definition Dual Frequency SAS UOES Contract Award Dual Freq SAS Development Dual Freq SAS Fleet Experimentation LFBB UUV Milestone B LFBB UUV Contract Award LFBB UUV Development LFBB UUV Milestone C LFBB UUV Production													

R-1 SHOPPING LIST - ITEM NO.

36

**UNCLASSIFIED** 

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 77 of 98)

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail	DATE: February 20								
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	I IMBER AND NA			
RDT&E,N/ BA-4		urface & Shallo	w Water MCM		3123 SMCM L				
Small Shallow and Deept Water UUV	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Notional CONOPS (AOA) Study	4Q				1				
Requirements Definiton	1Q-4Q								
Dual Frequency SAS UOES Contract Award		3Q							
Dual Frequency SAS Development		3Q-4Q	1Q-4Q						
Dual Frequency SAS Fleet Expeimentation				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
LFBB UUV Milestone B				1Q					
LFBB UUV Contract Award				3Q					
LFBB Development				3Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
LFBB Milestone C							3Q		
LFBB Production							3Q-4Q		
					1				
		DINIO LIOT							

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY	MBER AND N	AME									
RDT&E, N / BA-4	0603502N, Su	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND 502N, Surface and Shallow Water MCM 4025 Expendable Mine Neu							m		
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 20	005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Program
Project Cost	0.000		1.825	8.334	13.760	0.000	0.000	0.000	0.000	0.000	23.919
RDT&E Articles Qty											0

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Expendable Mine Neutralization System (EMNS) is a replacement to the existing AN/SLQ-48 Mine Neutralization System (MNS). The current program replaces the MNS with EMNS on the 14 MCM Avenger Class Ships. EMNS will leverage off of on-going efforts in the Airborne Mine Countermeasures Program to develop an Airborne Mine Neutralization System (AMNS).

#### CLASSIFICATION:

(HIBIT R-2a, RDT&E Project Justification DATE:							
				February 2006			
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	NAME				
T&E, N / BA-4	0603502N, Surface and Shallow Water MCM	4025 Expendable Mine Neu	ıtralization System				
B. Accomplishments/Planned Program							
	FV of	EV 00	FV 07				
Product Development Accomplishments/Effort/Subtotal Cost	FY 05		FY 07	-			
	1.203	6.326	4.730	_			
RDT&E Articles Quantity							
Product Development:							
	ine Neutralization System (EMNS) developer. Initiate	hardware design and development. M	Modify software for use on an	MCM class ship. Integrate EMNS Engineering			
Development Model (EDM) aboard MCM-1 Clas		e nardware design and development.	noully software for use of an	WOW class stip. Integrate Living Engineering			
revelopment woder (EDIVI) aboard wow-1 Clas	ss Stilp.						
Support	FY 05	FY 06	FY 07	٦			
Accomplishments/Effort/Subtotal Cost	0.092		0.900	-			
RDT&E Articles Quantity	0.092	1:000	0.900				
TO I GE Articles Quartity							
Support:							
	atariala and internative to desiral manual						
Develop logistics products, including training m	ateriais and interactive technical manual.						
i .							

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	tion		DAT	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AF.	February 2006
T&E, N / BA-4	0603502N, Surface and Shallow Water MCM	4025 Expendable Mine Neutra	lization System	
B. Accomplishments/Planned Program				
Test and Evaluation	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.100	0.578	7.700	
RDT&E Articles Quantity				
Management	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.430	0.430	0.430	
RDT&E Articles Quantity				
Management:				
Provide program management support and tra	avel for EMNS.			
Total	1.825	8.334	13.760	

#### CLASSIFICATION:

				February 2006
			R-1 ITEM NOMENCLATURE	
BA-4			4025 Expendable Mine Neut	ralization System
FY 2005	FY 2006	FY 2007		
2.155	11.506	14.030		
1.825	8.334	13.760		
(0.330)	(3.172)	(0.270)	_	
0.000	0.000	0.062		
0.000	0.000	0.020		
(0.330)	(3.172)	(0.352)	<u>_</u>	
(0.330)	(3.172)	(0.270)		
	2.155 1.825 (0.330) 0.000 0.000 (0.330) (0.330)	FY 2005 FY 2006 2.155 11.506 1.825 8.334 (0.330) (3.172)  0.000 0.000 0.000 0.000 (0.330) (3.172) (0.330) (3.172)	FY 2005 FY 2006 FY 2007 2.155 11.506 14.030 1.825 8.334 13.760 (0.330) (3.172) (0.270)  0.000 0.000 0.062 0.000 0.000 0.020 (0.330) (3.172) (0.352)	BA-4         4025 Expendable Mine Neutron         FY 2005       FY 2006       FY 2007         2.155       11.506       14.030         1.825       8.334       13.760         (0.330)       (3.172)       (0.270)             0.000       0.000       0.062         0.000       0.000       0.020         (0.330)       (3.172)       (0.352)         (0.330)       (3.172)       (0.270)

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification							DATE:			
									Februa	ary 2006	
APPROPRIATION/BUDGET		PROGRAM E	LEMENT NUM	BER AND NAM	ИE	PROJECT NU	IMBER AND N	AME			
RDT&E, N /	BA-4	0603502N, Su	rface and Sha	llow Water MC	М	4025 Expenda	able Mine Neut	ralization Syst	em		
(U) D. OTHER PROC	GRAM FUNDING SUMMARY:								т.	Total	
Line Item No. & Na	<u>ime</u>	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To <u>Complete</u>	Total <u>Cost</u>	
(U) E. ACQUISITION S	STRATEGY:										
program) system	ne Countermeasures Program is n with the Archerfish neutralizer to e acquisition strategy will be full	for the MH-60s helicopter.	Based on Surf	ace Ship requi	rements, one	of these two var	riants will likely				
Class Onips. Th	e acquisition strategy will be full	and open competition to a	system develop	oment, likely us	ang one or the	riieutializei vaii	ants.				

#### CLASSIFICATION:

							DATE:						
Exhibit R-3 Cost Analysis	(page 1)									Februar	y 2006		
APPROPRIATION/BUDGET A	CTIVITY	PROGRAM				NUMBER AND							
RDT&E, N / BA-4				low Water MCM	4025 Expen		utralization Syste						
Cost Categories	Method	Performing Activity & Location	Total PY s Cost		FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Develop Technical and Acquisit		NSWC, Panama City, FL	0.000		1.2		0.000		0.000		0.000		
Hardware and Software Develo		TBD	0.000			10,01	4.763		2.200		0.000		
Systems Engineering	WX	NSWC, Panama City, FL	0.000				1.563	1	1.530		0.000		
Shipboard Integration	wx	NSWC, Panama City, FL	0.000					10,00	1.000		0.000		
		,											N/A
													N/A
													N/A
Subtotal Product Development			0.000		1.2	03	6.326	3	4.730	)	0.000	12.259	)
Remarks:													

#### CLASSIFICATION:

									DATE:						
Exhibit R-3 Cost Analysis (	page 1)											Februar	y 2006		
APPROPRIATION/BUDGET ACT	TIVITY		PROGRAM				PROJECT N								
RDT&E, N / BA-4			0603502N,	Surface and Sha	Illow Water MC	CM	4025 Expend		itralization Syste						
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Develop Logistics Products	CPIF	TBD		0.000	)				0.800	10/05	0.700	10/06	0.00	0 1.50	
Develop Logistics Products	WX	NSWC, Pana	ama City, FL	0.000	)		0.092	10/04	0.200	10/05	0.200	10/06	0.00	0.49	2 N/A
			-												N/A
															N/A
															N/A
															N/A
															N/A
															N/A
															N/A
Subtotal Support				0.000	)		0.092	2	1.000	)	0.90	0	0.00	0 1.99	2
Remarks:															

#### CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis (pa		1			T						Februar	y 2006		
APPROPRIATION/BUDGET ACTIV	'ITY	PROGRAM					MBER AND N							
RDT&E, N / BA-4	<u> </u>		Surface and Shallov	w Water MCM	4025 Exp			tralization System			In. an		1	
Cost Categories	Contract Method	Performing Activity &	Total PY s		FY 05		FY 05 Award	FY 06	FY 06 Award	FY 07	FY 07 Award	Cost to	Total	Target Value
	& Type	Location	Cost		Cost		Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Develop TEMP	WX	NSWC, Panama City, FL	0001			.100	10/04	0.10		Cost	Duto	0.000		
Environmental and Shock Testing	WX	NSWC, Panama City, FL					10/01	0.24		0.500	10/06	0.000		
CT/DT/OT	CPIF	TBD						0.10	-	1.470		0.000		
CT/DT/OT	WX	NSWC, Panama City, FL						-	10,00	4.230		0.000		_
Safety Testing	wx	NSWC, Panama City, FL						0.13	8 10/05	1.500		0.000		3
Subtotal T&E			0.000		(	0.100		0.57	8	7.700	D	0.000	8.378	3
Program Mangament Cunnert	CPFF	CACI	0.000			150	10/04	0.15	0 10/05	0.150	10/06	0.000	0.450	N N
Program Mangement Support		CACI	0.000			0.150	10/04	0.15		0.150		0.000		
Travel	Various	NAVSEA	0.000	-		0.050	10/04	0.05		0.050		0.000		
Government Engineering Support	WX	NSWC, Panama City, FL			(	0.230	10/04	0.23	0 10/05	0.230	10/06	0.000	0.690	N/A
				+						+		+		N/A
														IN//
Subtotal Management			0.000		(	0.430		0.43	0	0.430	D	0.000	1.290	
Remarks:														
Total Cost			0.000			1.825		8.33	4	13.760	O	0.000	23.919	9
Remarks:														

#### **CLASSIFICATION:**

EXHIBIT R-4, Schedule Profile																		DA	TE:											
																							Fe	ebru	Jary	200	)6			
APPROPRIATION/BUDGET ACTIVITY		OGRAN											OJEC																	
RDT&E, N/BA-4	060	03502N											25 Exp					utrali	zatio	n Sy	/ster	n								
		ΕN	ΛN	S	PF	C	$)(\cdot$	3F	RAI	M :	S	CH	ΗE	Dl	Jl	_E														
														1				T												
			F`	Y 20	05		F	FY 2	2006		FY	200	)7		FY	200	8		F١	/ 20	09		F	Y 2	010			FY:	2011	
			1	2	3	4	1	2	3 4		. :	2 3	3 4	1	2	2 3	. 4	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Award	1 1							Λ					-																	
								$\underline{\hspace{1cm}}$	<u>`</u>																					
HW/SW Design and Development							L																							
Preliminary Design Review									$\wedge$																					
Tremmary Besign Neview																														
Critical Design Review									/	$\backslash$																				
Ontioal Boolgi Noview									_																					
Contractor / Development Testing									ſ																					
gorination, porting month rooming											_																			
EDM Install / Checkout											$\wedge$	\																		
											_	_																		
TECHEVAL/OPEVAL																														
Milestone C													$\wedge$																	
													_	1																

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	February 20	06
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-4		urface & Shallov	v Water MCM			able Mine Neutr		m
Schedule Profile: EMNS	000000211, 0	FY 2005	FY 2006	FY 2007	FY 2008		FY 2010	FY 2011
Contract Award		F1 2003	2Q	F1 2001	F1 2006	F1 2009	F1 2010	F1 2011
HW/SW Design & Development			2Q - 3Q					
			3Q					
Preliminary Design Review Critical Design Review			4Q					
Contractor / Development Testing			4Q 4Q	1Q				
EDM Installation and Checkout			40	2Q				
TECHEVAL/OPEVAL		+		2Q-3Q				
Milestone C				4Q				
Willestone C				70				
								ĺ

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUME	BER AND NAM	1E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shal	low Water MCN	1		9513 Battlespa	ace Preparation	n Autonomous	Undersea Veh	cile (BPAUV)	
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Cost to Complete	Program
Project Cost	0.000	0.964*	0.000	0.000	0.000	0.000	0.000	0.000			0.96
DDT05 A (LL O)											
RDT&E Articles Qty											

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

<sup>\*</sup> Congressional plus up of the Battlespace Preparation Autonomous Undersea Vehicle (BPAUV) is an unmanned system capable of minehunting and oceanographic data gathering. The BPAUV will be launched and recovered from Littoral Combat Ship (LCS) Flight 0. The Congressional plus up partially funds the development of an engineering development system. BPAUV will be partially funded via the LCS mission module funding.

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n			DATE:
				February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	MBER AND NAME	PROJECT NUMBER AND	NAME
RDT&E, N /BA-4	0603502N, Surface & Shall	low Water MCM	9513 BPAUV	
U) B. Accomplishments/Planned Program				
BPAUV	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.964*	0.000	0.000	
RDT&E Articles Quantity				
* Congressional plus. Develop, integrate and tes	t two engineering development s	ystems.		
		Т		
				+
L	I		L	
Total	0.964	0.000	0.000	
iotai	0.304	0.000	0.000	

R-1 SHOPPING LIST - Item No.

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#### **CLASSIFICATION:**

XHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2006
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	
DT&E, N / BA-4	Surface & Shallow Water MCM,	060325N		9513 BPAUV	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2005	FY 2006	FY 2007		
FY06 President's Controls:	0.991	0.000	0.000		
FY07 DON Controls:	0.964	0.000	0.000		
Total Adjustments	-0.027	0.000	0.000		
Summary of Adjustments					
Other General Provisions	-0.027				
Subtotal	-0.027	0.000	0.000		
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					

#### CLASSIFICATION:

EVHIDIT D 20 DDT0E D	roigat Justification							DATE:			
EXHIBIT R-2a, RDT&E P	roject Justilication							DATE:	Februa	ary 2006	
APPROPRIATION/BUDGET A	CTIVITY	PROGRAM EL	EMENT NUME	BER AND NAM	E	PROJECT NU	MBER AND N	AME			
RDT&E, N /	BA-4	0603502N, Su	rface & Shallo	w Water MCM		9513 BPAUV					
(U) D. OTHER PROGR	AM FUNDING SUMMARY:								То	Total	
Line Item No. & Name	<u>9</u>	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	<u>Complete</u>	Cost	
BPAUV 0603581N/14KB - F	RDT&E	4.000	2.700	2.200							
(U) E. ACQUISITION STR An enginering de	RATEGY: * evelopment system Battlespace Prepara	ation Autonomous	s Undersea Vel	hicles (BPAUV)	) will be procu	ured for LCS Flig	ght 0 experime	entation.			

#### **CLASSIFICATION:**

												DATE:				
Exhibit R-3 Cost Analysis (page 1) APPROPRIATION/BUDGET ACTIVITY														F	ebruary 2006	
			PROGRAM E	LEMEN.	Т			PROJE	CT NU	MBER /	AND NA	ME			-	
RDT&E, N / BA-4			0603502N, S		k Shallo			9513 B	PAUV							
Cost Categories	Contract Method	Performing Activity &		Total PY s			FY 05 Award	EV 06	FY 06	EV 07	FY 07 Award		Cost to		Total	Target Value
	& Type	Location		Cost		Cost	Date	Cost	Date	Cost	Date		Complete		Cost	of Contract
BPAUV - Primary Hardware development	Contract	Bluefin			0.000		09/05								0.964	
Subtotal Product Development					0.000	0.964		0.000		0.000	)		(	0.000	0.964	
Program Management Support																
Program Management Support																
Training Development																
Integrated Logistics Support																
Configuration Management																
Technical Data																
GFE																
Award Fees																
Subtotal Support					0.000			0.000		0.000	)		(	0.000	0.000	
Remarks:							LICT			26						

#### **CLASSIFICATION:**

											DATE:			
Exhibit R-3 Cost Analysis (pag	e 2)											Februar	ry 2006	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EI						/IBER A	ND NAM	1E			
RDT&E, N / BA-4	1-	Τ		urface & Shallo			9513 B	PAUV	T	1	T		1	
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 05	FY 05 Award Date	FY 06	FY 06 Award Date	FY 07	FY 07 Award Date		Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Subtotal T&E				0.000	0.000		0.000		0.000			0.000	0.000	
Remarks:	<b>.</b>			,										
Program Management Support														
Miscellaneous														
Subtotal Management				0.000	0.000		0.000		0.000			0.000	0.000	
Remarks:				1 0.000	0.000	l	1 0.000		0.000			, 0.000	0.000	
Total Cost				0.000	0.964		0.000		0.000			0.000	0.964	
Remarks:														

#### **CLASSIFICATION:**

# **UNCLASSIFIED**

E)	KHIBIT R-4, Sch	edule Profile			DATE:			
					Fe	bruary 2006		
APPROPRIATION/BUDGET ACTIVITY					CT NAME AND I	NUMBER		
RDT&E, N/BA-4	0603502N, Sur	face & Shallow \	Water MCM	9513 BI	PAUV			
		RPAUV F	Program Schedu	ıle				
		2.7011	rogram conouc					
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
BPAUV	$\wedge$							
Development Contract Award								
BPAUV Development	L							

R-1 SHOPPING LIST - ITEM NO.

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**UNCLASSIFIED** 

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 95 of 98)

#### **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail						DATE:	Fabruary 20	06
APPROPRIATION/BUDGET ACTIVITY  RDT&E,N/ BA-4	PROGRAM E 0603502N. S	LEMENT urface & Shallo	w Water MCM		PROJECT NU 9513 BPAUV	MBER AND N	February 20 AME	<u>uo</u>
BPAUV	FY 2005	FY 2006		FY 2008	FY 2009	FY 2010	FY 2011	
Contract Award	4Q							

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-4	0603502N, Su	rface and Shal	low Water MCI	M		9999 Congres	sional Adds				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Cost to Complete	Program
Project Cost	0.000	0.000	1.400	0.000	0.000	0.000	0.000	0.000			1.40
RDT&E Articles Qty											

#### (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional plus-up. - Investigate development of an AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justific	eation		DATE:		
			February 2006		
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME		
OT&E, N / BA -4 0603502N, Surface & Shallow Water MCM		9999 Congressional Adds			
Accomplishments/Planned Program					
	FY 05	FY 06	FY 07		
9179	0.000	1.400	0.000		
Surface Navy Integrated Undersea Tactical T		1.400	0.000		